

APPENDIX C

Biological Technical Study

PEACEFUL VALLEY RANCH

BIOLOGICAL TECHNICAL REPORT

TM 5341RPL⁵, GPA 03-05, R 03-15, MUP 04-048, Log No. 04-19-007

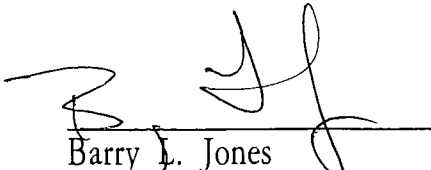
March 26, 2007

Prepared for :

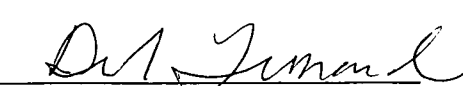
PEACEFUL VALLEY RANCH, LLC
14131 Hillside Drive
Jamul, California 91935

Prepared by :

HELIX ENVIRONMENTAL PLANNING, INC.
7578 El Cajon Boulevard, Suite 200
La Mesa, California 91941


Barry L. Jones

Senior Consulting and County-certified Biologist


Deborah Leonard

County-certified Biologist

Peaceful Valley Ranch Biological Technical Report

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
S	SUMMARY OF FINDINGS	S-1
1.0	INTRODUCTION	1
1.1	Project Description	1
1.2	Location.....	1
1.3	Topography, Soils, Existing and Surrounding Land Uses	2
2.0	METHODS.....	2
2.1	Focused Surveys.....	4
2.1.1	General	4
2.1.2	Arroyo Southwestern Toad Habitat Assessment	4
2.1.3	Burrowing Owl.....	5
2.1.4	Coastal California Gnatcatcher.....	5
2.1.5	Quino Checkerspot Butterfly	5
2.1.6	Rare Plants	5
2.1.7	Wetland Delineation	5
2.2	Survey Limitations	6
2.3	Nomenclature.....	6
3.0	RESULTS	7
3.1	Vegetation Community Descriptions	7
3.1.1	Coast Live Oak Woodland	7
3.1.2	Riparian Woodland.....	8
3.1.3	Mule Fat Scrub	8
3.1.4	Diegan Coastal Sage Scrub.....	8
3.1.5	Disturbed Diegan Coastal Sage Scrub	8
3.1.6	Southern Mixed Chaparral	8
3.1.7	Non-native Grassland.....	9
3.1.8	Non-native Vegetation	9
3.1.9	Eucalyptus Woodland.....	9
3.1.10	Disturbed Habitat	9
3.1.11	Agriculture	9
3.1.12	Developed	9
3.2	Sensitive Vegetation Communities	9
3.3	Plants.....	10
3.3.1	Sensitive Plant Species Observed	10
3.3.2	Sensitive Plant Species with Potential to Occur	10

TABLE OF CONTENTS (cont.)

<u>Section</u>	<u>Title</u>	<u>Page</u>
3.0	RESULTS (cont.)	
3.4	Animals.....	14
3.4.1	Sensitive Animal Species Observed.....	14
3.4.2	Sensitive Animal Species with Potential to Occur	16
3.5	Jurisdictional Areas.....	21
3.5.1	Corps.....	21
3.5.2	CDFG	21
3.5.3	County Jurisdictional/RPO Wetlands.....	21
4.0	REGIONAL AND REGULATORY CONTEXT	22
4.1	Regional Conservation Context	22
4.2	Regulatory Issues	22
4.2.1	Federal Government	22
4.2.2	State of California	23
4.2.3	County of San Diego.....	23
5.0	IMPACTS	24
5.1	Criteria for Determining Significance	24
5.2	Direct Impacts.....	26
5.2.1	Vegetation Communities	26
5.2.2	Sensitive Plant Species	27
5.2.3	Sensitive Animal Species	27
5.2.4	Jurisdictional Impacts	27
5.2.5	Corridors	28
5.3	Indirect Impacts	28
5.3.1	Water Quality	28
5.3.2	Construction Noise	29
5.3.3	Fugitive Dust	29
5.3.4	Non-native Plant Species	30
5.3.5	Edge Effects.....	30
5.3.6	Domestic Pets.....	30
5.3.7	Human Activity.....	30
5.3.8	Animal Behavioral Changes	30
5.3.9	Roadkill.....	31
5.3.10	Night Lighting	31
5.3.11	Errant Construction	31
5.3.12	Groundwater Drawdown	31
6.0	PROPOSED MITIGATION MEASURES	32
6.1	Direct Impacts	32
6.2	Indirect Impacts.....	34

TABLE OF CONTENTS (cont.)

<u>Section</u>	<u>Title</u>	<u>Page</u>
7.0	CONCLUSION.....	35
8.0	CERTIFICATION/QUALIFICATION.....	36
9.0	REFERENCES.....	37

LIST OF APPENDICES

<u>Letter</u>	<u>Title</u>
A	Year 2003 Protocol Coastal California Gnatcatcher Survey Report
B	Years 2003 and 2005 Protocol Quino Checkerspot Butterfly Survey Reports
C	Plant Species Observed
D	Animal Species Observed or Detected
E	Explanation of Status Codes for Plant and Animal Species

LIST OF FIGURES

<u>Number</u>	<u>Title</u>	<u>Follows Page</u>
1	Regional Location Map	2
2	Project Location Map	2
3	Vegetation and Sensitive Resources	8
4	Jurisdictional Areas/Impacts.....	22
5	Vegetation and Sensitive Resources/Impacts.....	26

LIST OF TABLES

<u>Number</u>	<u>Title</u>	<u>Page</u>
1	Survey Information	2
2	Existing Vegetation Communities.....	7
3	County Sensitive Plant Species with Potential to Occur	10
4	County Sensitive Animal Species with Potential to Occur	16
5	Direct Impacts to Sensitive Vegetation Communities	26
6	Mitigation for Direct Impacts to Sensitive Vegetation Communities.....	32

SUMMARY OF FINDINGS

This report describes existing biological conditions on the 181.31-acre Peaceful Valley Ranch property (property; project) and provides the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers (Corps), California Department of Fish and Game (CDFG), Regional Water Quality Control Board, County of San Diego (County), and project applicant with information necessary to assess impacts to biological resources under the California Environmental Quality Act, federal and state Endangered Species acts, federal Clean Water Act, and California Fish and Game Code.

The proposed project includes the subdivision of the 181.31 acres into 46 estate lots for residential uses, one estate residential lot for the existing ranch house, one equestrian facility, one lot reserved for joint-use fire station and administrative offices, one private horse stable and training facilities/polo field lot, six private roadway lots, and biological open space. The property is located south of the unincorporated community of Jamul on State Route (SR) 94 in San Diego County. SR 94 forms the property's western boundary, Rancho Jamul Estates and the Rancho Jamul Ecological Reserve abuts the southern side, Melody Road forms a portion of the northern edge, and a mix of private lands border the remaining northern and eastern sides of the property. From a regional standpoint, the property is on unincorporated land located within the Metro-Lakeside-Jamul segment of the County's Multiple Species Conservation Program (MSCP) Subarea Plan. The property is outside of any Biological Resource Core Area and outside of designated Pre-approved Mitigation Areas.

The majority of the property is agricultural land where oats (*Avena* sp.) are grown on approximately 106.0 acres. Other land uses on site include horse facilities and two residences. Surrounding land uses primarily include open space to the south, large lot residential and vacant lands to the east, open space and a fire station to the west, and large lot residential land to the north. Agricultural lands dominate the west and south, while low-density residential areas are to the north and east.

Two sensitive plant species, San Diego County viguiera (*Viguiera laciniata*) and San Diego sagewort (*Artemisia palmeri*), were observed on site. Eight animal species observed on site are recognized as sensitive: Cooper's hawk (*Accipiter cooperii*), Bell's sage sparrow (*Amphispiza belli belli*), northern harrier (*Circus cyaneus*), California horned lark (*Eremophila alpestris actia*), loggerhead shrike (*Lanius ludovicianus*), western bluebird (*Sialia mexicana*), great blue heron (*Ardea herodias*), and red-shouldered hawk (*Buteo lineatus*). Impacts to these species would either be avoided or would be less than significant. Focused surveys were conducted for other sensitive animal species including burrowing owl (*Athene cunicularia*), coastal California gnatcatcher (*Poliophtila californica californica*), and Quino checkerspot butterfly (*Euphydryas editha quino*). All focused surveys were negative. A habitat assessment was also conducted to determine if potential habitat for the arroyo southwestern toad (*Bufo californicus*) is present on site; conditions were determined to be inadequate to support the species.

The proposed project would directly impact 50.9 acres of sensitive vegetation communities on the site. These impacts include 0.04 acre of oak root zone buffer (from a trail in open space), 22.8 acres of Diegan coastal sage scrub, 2.2 acres of disturbed Diegan coastal sage scrub, 3.1 acres of southern mixed chaparral, 22.2 acres of non-native grassland on site, and 0.6 acre of non-native grassland off site. Impacts would also occur to 0.32 acre of Corps and CDFG jurisdictional areas. Impacts to upland habitats will be mitigated off site consistent with mitigation ratios in the County's Biological Mitigation Ordinance (BMO) and MSCP Subarea Plan. Significant indirect impacts (construction noise, non-native plant species, domestic pets, human activity, errant construction, and groundwater

HELIX

drawdown) would be mitigated to levels below significance. Overall, the project impacts to biological resources would be fully mitigated by the mitigation measures described herein pursuant to the County's BMO and MSCP Subarea Plan.

1.0 INTRODUCTION

This report describes existing biological conditions on the 181.31-acre Peaceful Valley Ranch property (property; project) and provides the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (Corps), California Department of Fish and Game (CDFG), Regional Water Quality Control Board (RWQCB), County of San Diego (County), and project applicant with information necessary to assess impacts to biological resources under the California Environmental Quality Act (CEQA), federal and state Endangered Species acts (ESAs), federal Clean Water Act, and California Fish and Game Code.

1.1 PROJECT DESCRIPTION

The project proposes the subdivision of 181.31 acres into 46 estate lots for residential uses, one estate residential lot for the existing ranch house, one equestrian facility, one lot reserved for joint-use fire station and administrative offices, one private horse stable and training facilities/polo field lot, six private roadway lots, and biological open space. Permanent signage and fencing will be provided identifying the biological open space limits. Limited building zones have been designated on site that prevent the placement of structures requiring fire clearing into on- and off-site easements/preserves (Scott Franklin Consulting 2004). The project includes minor off-site road improvements to State Route (SR) 94 north of the northern property boundary at Melody Road and installation of a groundwater monitoring well off-site to the south in the Hollenbeck Canyon Wildlife Area. Public water will serve the residential components of the project site, with service provided by the Otay Water District. The proposed subdivision required the approval of a Tentative Map (TM 5341RPL²) by the County.

The project also includes a General Plan Amendment (GPA) to amend the existing land use designation of the easterly 152.4 acres of the 181.31-acre property from (18) Multiple Rural Use (1 du/4, 8, 20 ac) with an A72 (8) General Agriculture zone to the (17) Estate Residential (1 du/2, 4 ac) designation with an A72 (2) General Agriculture zone. The General Plan Amendment covers Assessor's Parcel Numbers (APNs) 597-050-13, 597-070-02, and 597-070-07. The GPA request also seeks removal of a segment of a County Circulation Element Road SC 760, which is currently aligned through the project site. SC 760 is a planned two-lane Light Collector Road. The segment of SC 760 proposed for removal with the project extends from SR 94 north to Olive Vista Drive. The project also includes annexation of the 152.46 acres of the easterly portion of the site into the San Diego County Water Authority and Metropolitan Water District.

1.2 LOCATION

The property is located south of the unincorporated community of Jamul on SR 94 in San Diego County. SR 94 forms the property's western boundary, Rancho Jamul Estates and the CDFG Rancho Jamul Ecological Reserve abut the southern side, Melody Road forms a portion of the northern edge, and a mix of private lands border the remaining northern edge and east side (Figures 1 and 2). From a regional standpoint, the property is on unincorporated land located within the Metro-Lakeside-Jamul segment of the County's Multiple Species Conservation Program (MSCP) Subarea Plan. The property is outside of any Biological Resource Core Area (BRCA) or areas designated as Pre-approved Mitigation Area (PAMA). The project must conform to the requirements of the Subarea Plan and Biological Mitigation Ordinance (BMO). The site is located in the southern third of Section 10,

HELIX

Range 1 East, Township 17 South of the U.S. Geological Survey 7.5-minute Dulzura quadrangle (Figure 2) and contains four parcels (APNs 597-050-13, 597-060-20, and 597-070-02 and -07).

1.3 TOPOGRAPHY, SOILS, EXISTING AND SURROUNDING LAND USES

The property consists mostly of rolling hills with elevations gradually increasing from west to east. One blue line stream bisects the property from north to south, and a second blue line stream crosses the southeast corner. Other ephemeral drainages occur throughout the site. There are two small knolls on the west side, a large hill in the south-central portion, and the southern two-thirds of the property slopes up toward two peaks. Elevation ranges from approximately 828 to 1,108 feet above mean sea level. Soils on site are Fallbrook, Ramona, Cienaba rocky coarse, Vista rocky coarse, and Placentia sandy loams, and Tujunga sand (Bowman 1973).

The majority of the property is agricultural land where oats (*Avena* sp.) are grown. Surrounding land uses primarily include open space to the south, large lot residential and vacant lands to the east, undeveloped land and a fire station to the west, and large lot residential land to the north.

2.0 METHODS

Field surveys were conducted on site as well as at the off-site improvements along SR 94 and the monitoring well location by HELIX Environmental Planning, Inc. (HELIX) biologists, who performed vegetation mapping, general botanical and zoological surveys, and rare and sensitive plant and animal species surveys, including a habitat assessment and protocol surveys for the federally listed endangered Quino checkerspot butterfly (*Euphydryas editha quino*), protocol surveys for the federally listed threatened coastal California gnatcatcher (*Poliophtila californica californica*), and focused surveys for the burrowing owl (*Athene cunicularia*), a California Species of Special Concern. An assessment of the property was conducted to determine if it possessed habitat suitable for the federally listed endangered arroyo southwestern toad (*Bufo californicus*). A formal wetland delineation was also conducted on the site. Table 1 lists the dates and personnel for each survey as well as weather conditions during the survey, and a description of each survey as follows.

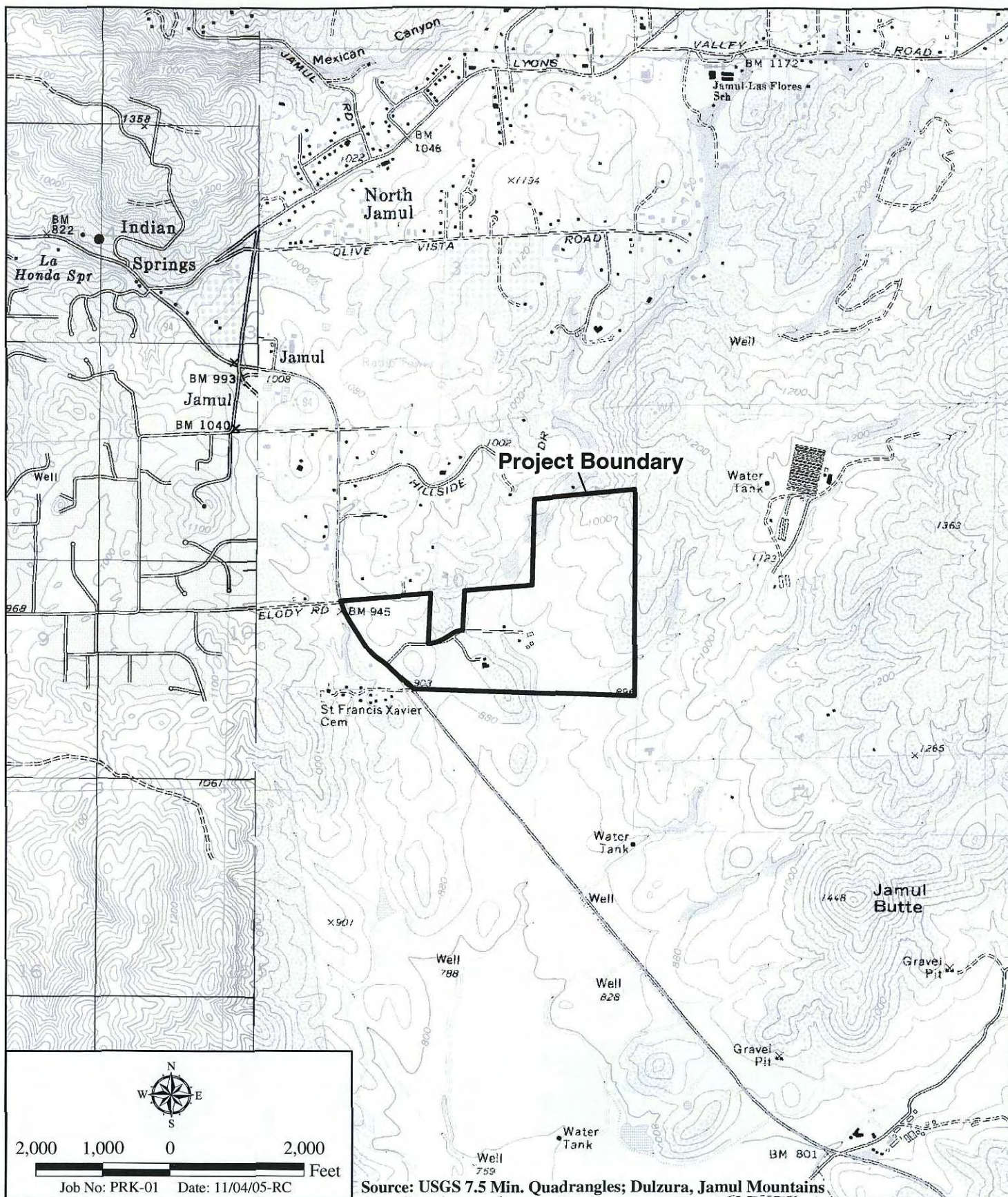
Prior to conducting field surveys, a search of existing literature was conducted, including a review of previous HELIX reports and a search of the California Natural Diversity Database (CNDDB).

Table 1 SURVEY INFORMATION		
DATE	PERSONNEL	TIME; WEATHER CONDITIONS
Vegetation Mapping and General Biological Survey		
July 12, 2002	Auckland	N/A
July 15, 2002	Auckland	N/A
Arroyo Toad Habitat Assessment		
April 3, 2003	Taylor	N/A



PEACEFUL VALLEY RANCH

HELIX



Project Location Map

PEACEFUL VALLEY RANCH

Figure 2

Table 1 (cont.)
SURVEY INFORMATION

DATE	PERSONNEL	TIME; WEATHER CONDITIONS
Burrowing Owl Survey		
January 29, 2003	Leonard, Parker	0730-1045; Clear, 55-64°F, wind 0-5 mph
June 30, 2003	Leonard, Parker	0715-1015; Clear, 60-70°F, wind 0-4 mph
Coastal California Gnatcatcher Survey		
July 17, 2003	Leonard	0800-1000; Overcast, 79°F, wind 0-2 mph/Overcast, 84°F, wind 0-2 mph; 30 acres/15 acres per hour
July 24, 2003	Leonard	0800-1030; Hazy sun, 73°F, wind 0-2 mph/Clear, 80°F, wind 2-4 mph; 30 acres/15 acres per hour
August 1, 2003	Leonard	0745-0945; Partly cloudy, 70°F, wind 0-2 mph/Clear, 75°F, wind 0-2 mph; 30 acres/15 acres per hour
Quino Checkerspot Butterfly Surveys		
February 18, 2003	Leonard	1000-1500; Hazy sun, 69°F, wind 0-2 mph/Hazy sun, 74°F, wind 0-2 mph
February 21, 2003	Leonard	0900-1400; Clear, 64°F, no wind/Clear, 76°F, wind 2-4 mph
March 2, 2003	Leonard	0930-1430; Clear, 60°F, wind 0-2 mph/Clear, 65°F, wind 2-5 mph
March 7, 2003	Leonard	0930-1430; Clear, 61°F, wind 0-2 mph/Clear, 70°F, wind 0-2 mph
March 14, 2003	Leonard	1100-1600; Hazy sun, 71°F, wind 0-2 mph/Clear, 74°F, wind 0-2 mph
March 18, 2003	Leonard	0930-1130; Clear, 72°F, wind 0-2 mph/Clear, 73°F, wind 0-2 mph
March 19, 2003	Leonard	0930-1230; Clear, 62°F, no wind/Clear, 69°F, wind 0-7 mph
March 25, 2003	Leonard	0915-1415; Clear, 71°F, wind 0-2 mph/Clear, 83°F, wind 0-3 mph
April 1, 2003	Leonard	0900-1400; Clear, 72°F, wind 0-2 mph/Clear, 76°F, wind 0-5 mph
April 7, 2003	Leonard	0930-1430; Clear, 68°F, wind 0-1 mph/Clear, 79°F, wind 3-8 mph
April 25, 2003	Leonard	0815-1000; Clear, 61°F, wind 0-3 mph/Clear, 62°F, wind 0-3 mph
January 18, 2005	Parker	1030-1530; Mostly clear, 72°F, wind 0-2 mph/Mostly clear, 77°F, wind 2-4 mph
January 24, 2005	Parker, Mattson	1355-1530; Mostly cloudy, 76°F, wind 2-4 mph/Mostly cloudy, 70°F, wind 2-6 mph
January 25, 2005	Leonard	1230-1530; Hazy sun, 70°F, wind 2-4 mph/Mostly cloudy, 68°F, wind 2-6 mph
January 28, 2005	Leonard	1000-1140; Partly cloudy, 56°F, wind 0-2 mph/Mostly cloudy, 65°F, wind 0-2 mph
January 31, 2005	Leonard	0915-1415; Clear, 64°F, wind 0 mph/Clear, 64°F, wind 0-2 mph
February 9, 2005	Leonard	0915-1415; Clear, 60°F, wind 0-2 mph/Clear, 73°F, wind 2-8 mph
March 2, 2005	Parker	1030-1120; Mostly cloudy, 62°F, wind 2-4 mph/Mostly cloudy, 63°F, wind 2-4 mph
March 3, 2005	Parker	0930-1350; Mostly cloudy, 60°F, wind 1-3 mph/Mostly cloudy, 64°F, wind 2-4 mph

Table 1 (cont.) SURVEY INFORMATION		
DATE	PERSONNEL	TIME; WEATHER CONDITIONS
Quino Checkerspot Butterfly Surveys (cont.)		
March 9, 2005	Parker, Ritenour	1210-1530; Clear, 73°F, wind 0 mph/Clear, 68°F, wind 0-2 mph
March 11, 2005	Parker	1230-1550; Clear, 73°F, wind 4-6 mph/Clear, 69°F, wind 2-4 mph
March 12, 2005	Parker	1145-1330; Partly cloudy, 68°F, wind 1-3 mph/Clear, 74°F, wind 4-6 mph
March 16, 2005	Parker	1000-1500; Partly cloudy, 63°F, wind 2-4 mph/Clear, 68°F, wind 2-4 mph
March 21, 2005	Parker	1020-1520; Partly cloudy, 70°F, wind 1-4 mph/Partly cloudy, 70°F, wind 4-8 mph
March 31, 2005	Parker	0900-1400; Clear, 75°F, wind 8-10 mph/Clear, 75°F, wind 3-8 mph
April 9, 2005	LaCoste	1115-1615; Partly cloudy, 61°F, wind 3-4 mph/Partly cloudy, 65°F, wind 5-6 mph
April 14, 2005	Leonard	0900-1400; Clear, 71°F, wind 0-2 mph/Clear, 78°F, wind 3-5 mph
Wetland Delineation		
July 9, 2003	Sward	N/A
Rare Plant Surveys		
May 13, 2003	Sward	N/A
September 20, 2003	Sward	N/A

N/A=not applicable

2.1 FOCUSED SURVEYS

2.1.1 General

Vegetation was mapped on a topographic map (1"=200' scale). Species observed or detected by sign were recorded. Wildlife signs and observations were noted during all surveys. Potentially occurring species were determined through a habitat-based analysis and by consulting the known distribution of sensitive species in the project area.

2.1.2 Arroyo Southwestern Toad Habitat Assessment

The primary stream on site, an unnamed tributary of Jamul Creek, was assessed to determine potential habitat for the arroyo southwestern toad (Table 1). The stream was determined to be third order, which supports the minimum hydrology useable by the toad, and the tributary was dry. Typically, streams supporting arroyo toad must have persistent surface water from late March through mid-June (USFWS 1994). The habitat along the stream is also very disturbed and consists of scattered willows and oaks with an understory of non-native grasses and forbs. Additionally, the streambed is sandy, with a sharply cut channel and no signs of potential pool or riffle areas, or floodplain terraces that would be conducive to arroyo toad breeding.

HELIX

2.1.3 Burrowing Owl

One wintering and one nesting season survey for the burrowing owl were conducted on the property (Table 1). A cursory inspection of the whole site was done, but the surveys focused on areas that had potential to contain owl burrows or habitat suitable for foraging. Specifically, the surveys focused on grassland and areas around agricultural fields where agricultural equipment could not disturb the soil, such as along berms and fence lines. The survey areas also included 500 feet off site, where there was potential for burrowing owl activity (i.e., the agricultural fields south of the project site). The survey area was examined on foot by walking transects with the aid of binoculars.

2.1.4 Coastal California Gnatcatcher

Diegan coastal sage scrub and disturbed Diegan coastal sage scrub were surveyed for the coastal California gnatcatcher according to the schedule in Table 1. The surveys were conducted on foot with the aid of binoculars; taped gnatcatcher vocalizations, a vegetation map, and an aerial photograph (1"=400' scale) were used as aids. The taped gnatcatcher vocalizations were played approximately every five minutes. A copy of the Year 2003 protocol gnatcatcher survey report is included as Appendix A of this report.

2.1.5 Quino Checkerspot Butterfly

Presence/absence surveys for the Quino checkerspot butterfly were conducted on site in accordance with the Year 2002 Survey Protocol Information (USFWS 2002a) and Survey Recommendations for the Quino checkerspot butterfly (USFWS 2002b; Table 1). Prior to the surveys, a habitat assessment was conducted on February 5, 2003. Approximately 75 acres of potential Quino checkerspot butterfly habitat (Diegan coastal sage scrub, southern mixed chaparral, and non-native grassland) were surveyed. Copies of the Years 2003 and 2005 protocol Quino checkerspot butterfly survey reports are included in Appendix B of this report.

2.1.6 Rare Plants

Rare plant surveys were conducted on May 13 and September 20, 2003. The entire site was surveyed during the spring survey, and areas with the potential to support decumbent goldenbush (*Isocoma menziesii* var. *decumbens*) were surveyed on September 20.

2.1.7 Wetland Delineation

A focused delineation was conducted in areas proposed to be impacted that were suspected to be jurisdictional wetlands and non-wetland Waters of the U.S. on July 9, 2003 (Table 1).

Prior to beginning HELIX's portion of the field work, aerial photographs (1"=400' scale), topographic maps (1"=100' scale), and the Soil Survey of the San Diego Area (Bowman 1973) were reviewed to determine the location of potential jurisdictional areas that could be affected by the project. All areas in the proposed impact areas with depressions or drainage channels were evaluated for the presence of jurisdictional areas. Each area was inspected according to Corps wetland delineation guidelines. The Corps wetland boundaries were determined using three criteria (vegetation, hydrology, and soils)

HELIX

established for wetland delineations as described within the Wetlands Delineation Manual (Environmental Laboratory 1987). Other references used included Clarification and Interpretation of the 1987 Manual (Williams 1992) and Questions and Answers on the 1987 Manual (Studt 1991). CDFG jurisdictional boundaries were determined based on the presence of either riparian vegetation or stream hydrology. Riparian habitat is not defined in Title 14 but refers to vegetation and habitat associated with a stream, where this habitat may extend beyond the banks of a stream.

Suspected jurisdictional areas were traversed within or along the drainage, and the width of the ordinary high water mark (OHWM) and/or wetland and riparian habitat was measured periodically. Suspected jurisdictional areas which, after closer inspection were found to be non-jurisdictional, were also noted.

Dominant and non-dominant vegetation elements were noted in accordance with the delineation manual guidelines. Plants were identified according to Hickman, ed. (1993), although because of the timing of the surveys, some of the vegetation present was dormant or senescent. Indicator status was assigned to each dominant species using the USFWS Branch of Habitat Assessment's National List of Plant Species that Occur in Wetlands (1996). Wetland hydrology was evaluated by the presence of surface water, general drainage patterns, water marks, drift lines, debris and sediment deposits. Wetland soils were noted by low chromas (Kollmorgen 1994).

Areas were considered County jurisdictional/Resource Protection Ordinance (RPO) wetlands if they have at least one of the three following attributes: (1) at least periodically, the land supports predominantly hydrophytes (plants whose habitat is water or very wet places); (2) the substratum is predominantly undrained hydric soil; or (3) the substratum is non-soil and is saturated with water or covered by water at some time during the growing season each year.

2.2 SURVEY LIMITATIONS

Limitations to surveys were few. Most plants occurring on site were likely observed as a result of the number of visits made to the site throughout several seasons. The general zoology survey did not include trapping for rodents or reptiles, some species of which are highly likely to occur but were not observed. Because surveys were performed in daylight, nocturnal animals could not be directly observed. Additionally, some species occur in such low numbers they can easily be missed. For these reasons, other means such as database searches, habitat requirements, and knowledge of species distribution were used to determine the probability that other sensitive species may be present when field surveys are not feasible or warranted.

2.3 NOMENCLATURE

Nomenclature for this report is from Holland (1986) for vegetation communities, Hickman ed. (1993) for plants, Collins and Travis (2002) for reptiles and amphibians, Emmel and Emmel (1973) for butterflies, the American Ornithologists' Union (2006) for birds, and Baker et al. (2003) for mammals. Sensitive animal and plant status is taken from CDFG's California Natural Diversity Database (CNDDDB; 2006a and b, respectively and as updated).

3.0 RESULTS

3.1 VEGETATION COMMUNITY DESCRIPTIONS

The property supports 12 vegetation communities: coast live oak woodland, riparian woodland, mule fat scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern mixed chaparral, non-native grassland, non-native vegetation, eucalyptus woodland, disturbed habitat, agriculture, and developed (Figure 3; Table 2).

Table 2 EXISTING VEGETATION COMMUNITIES	
VEGETATION COMMUNITY*	ACREAGE
Tier I	
Coast live oak woodland (71160)	0.9
Riparian woodland (62000)	0.4
Mule fat scrub (63310)	0.03
Tier II	
Diegan coastal sage scrub (32500)	27.4
Diegan coastal sage scrub – disturbed	2.2
Tier III	
Southern mixed chaparral (37120)	3.1
Non-native grassland (42200)	25.0
Other	
Non-native vegetation (11000)	0.9
Eucalyptus woodland (11100)	0.4
Disturbed habitat (11300)	9.5
Agriculture (18000)	106.0
Developed (12000)	5.5
TOTAL	181.31†

*Categories and codes are from Holland (1986) and Oberbauer (1996)

†Total acreage (if column is added) equals 181.33 (not 181.31) due to rounding

3.1.1 Coast Live Oak Woodland

Typically, coast live oak woodland is characterized by only one dominant tree, coast live oak (*Quercus agrifolia*), which is evergreen and reaches 10 to 25 meters in height. The shrub layer is poorly developed, and the herb component is continuous and dominated by non-native grasses. Specifically, the understory consists of species such as bedstraw (*Galium aparine*), Italian thistle (*Carduus pycnocephalus*), and ripgut grass (*Bromus diandrus*). Several patches of coast live oak woodland totaling 0.9 acre occurs in the northwestern, central and southeastern portions of site.

3.1.2 Riparian Woodland

Riparian woodlands are communities that occur along stream courses and have a distinct tree stratum. Riparian woodlands are composed of winter-deciduous trees that require water near the soil surface. The dominant species that comprise the canopy of riparian woodlands are generally broad-leaved tree species. Three areas in the northwestern and central portions of the site contain riparian woodland, totaling 0.4 acre. This vegetation community occurs in association with the streambed and contains species such as willow (*Salix* sp.), sycamore, and mule fat (*Baccharis salicifolia*).

3.1.3 Mule Fat Scrub

Mule fat scrub is a depauperate, shrubby riparian scrub community dominated by mule fat and interspersed with shrubby willows. This habitat occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. Mule fat scrub totaling 0.03 acre occurs along the streambed in the southeastern corner of the site.

3.1.4 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is a vegetation community that is commonly characterized by drought-adapted subshrubs such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and white sage (*Salvia apiana*). Diegan coastal sage scrub on site is scattered throughout the site with little to no connectivity between patches; the total amount of this habitat on site is 27.4 acres. The northernmost portion of the property possesses the greatest quality and quantity of sage scrub. This sage scrub is dominated by California buckwheat, San Diego County viguiera (*Viguiera laciniata*), and California sagebrush. The sage scrub in the south-central portion of the site is of moderate quality and is dominated by California sagebrush and spiny redberry (*Rhamnus crocea*). The remainder the sage scrub on site is of lower quality, and although it contains many of the typical sage scrub shrubs (i.e., California sagebrush and California buckwheat), the shrubs are more widely spaced, and often the openings are completely filled in with large mustard (*Brassica* sp.) plants.

3.1.5 Disturbed Diegan Coastal Sage Scrub

Disturbed Diegan coastal sage scrub occurs in the western portion of the site in two areas, both of which are surrounded mostly by agriculture, non-native grassland and/or disturbed habitat. The patches in these areas total 2.2 acres. Disturbed sage scrub on site is similar to coastal sage scrub except that it contains a high percentage (at least 50 percent) of non-native grasses and forbs such as but not limited to bromes (*Bromus* spp.) and filaree (*Erodium* sp.).

3.1.6 Southern Mixed Chaparral

Southern mixed chaparral is composed of broad-leaved sclerophyllous shrubs such as chamise (*Adenostoma fasciculatum*), lilac (*Ceanothus* spp.), and scrub oak (*Quercus berberidifolia*) that can grow to six to 10 feet tall and form dense, often nearly impenetrable stands. Southern mixed chaparral occupies 3.1 acres in the northeastern corner of the site. Characteristic species in this community include chamise, laurel sumac (*Malosma laurina*), spiny redberry, and mission manzanita (*Xylococcus bicolor*).

LEGEND

Vegetation

Mule Fat Scrub (63310)

Coast Live Oak Woodland (71160)

Riparian Woodland (62000)

Isolated Sycamore (62400)

Diegan Coastal Sage Scrub (32500)

Diegan Coastal Sage Scrub Disturbed (32500)

Southern Mixed Chaparral (37120)

Non-native Grassland (42200)

Non-native Vegetation (11000)

Eucalyptus Woodland (11100)

Agriculture (18000)

Disturbed Habitat (11300)

Developed (12000)

Note: Numbers in parentheses represent the Holland code for the vegetation type.

Sensitive Resources

COHA

Cooper's Hawk (*Accipiter cooperii*)

SASP

Sage Sparrow (*Amphispiza belli belli*)

LOSH

Loggerhead Shrike (*Lanius ludovicianus*)

NOHA

Northern Harrier (*Circus cyaneus*)

HOLA

California Horned Lark* (*Eremophila alpestris actia*)

GBHE

Great Blue Heron (*Ardea herodias*)

RSHA

Red-shouldered hawk (*Buteo lineatus*)

WEBL

Western Bluebird (*Sialia mexicana*)

VI

San Diego County Vigiera (*Viguiera lacinia*)

Ap

San Diego Sagewort (*Artemisia palmieri*)

* This species occurs throughout the Agriculture vegetation type.

HELIX

Vegetation and Sensitive Resources

PEACEFUL VALLEY RANCH

Figure 3

3.1.7 Non-native Grassland

Non-native grassland is dominated by non-native grass species, but can also contain native grasses and native and non-native forbs. Non-native grassland on site consists of introduced annual grasses, sometimes associated with species of native origin. Characteristic non-native grasses on site include foxtail chess (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), and schismus (*Schismus barbatus*). Some native species present in the non-native grassland include goldfields (*Lasthenia californica*), doveweed (*Eremocarpus setigerus*), and southern sun cup (*Camissonia bistorta*). Non-native grassland is scattered throughout much of the site and totals 25.0 acres. An additional 0.6 acre of non-native grassland occurs in the off-site improvement area of SR 94.

3.1.8 Non-native Vegetation

Non-native vegetation included areas dominated by non-native tree species such as pepper trees (*Schinus molle*) as well as non-native shrub species and totals 0.9 acre on site.

3.1.9 Eucalyptus Woodland

As its name implies, this habitat is a woodland dominated by trees of the genus *Eucalyptus*. There is typically little to no understory vegetation as the chemical and physical characteristics of the leaf litter limit the ability of other species to grow. Eucalyptus woodland occurs on 0.4 acre adjacent to the streambed in the northwestern portion of the site.

3.1.10 Disturbed Habitat

Disturbed habitat includes land that has been cleared of vegetation or contains a preponderance of non-native plant species such as but not limited to mustard, yellow-star thistle (*Centaurea melitensis*), and wild radish (*Raphanus sativus*). Disturbed habitat primarily occurs along dirt roads, man-made berms, and the edges of developed land and agriculture and totals 9.5 acres. An additional 0.15 acre of disturbed habitat occurs at the off-site monitoring well location.

3.1.11 Agriculture

The property is largely an active agricultural site. A total of 106.0 acres of active agriculture occur on site. The primary crop is oats, but there is also a former organic vegetable farm in the central portion of the site now used as a horse corral. The organic vegetable farm ceased operation in August 2004.

3.1.12 Developed

Developed land consists of areas where permanent structures and/or pavement have been placed, preventing the growth of vegetation. Developed land on site includes a paved road, two residences, horse facilities, and produce packing facilities, totaling 5.5 acres.

3.2 SENSITIVE VEGETATION COMMUNITIES

Seven vegetation communities on site are considered sensitive by the County. These communities include coast live oak woodland, riparian woodland, mule fat scrub, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern mixed chaparral, and non-native grassland.

HELIX

3.3 PLANTS

A list of plant species observed is provided in Appendix C.

3.3.1 Sensitive Plant Species Observed

Two plant species identified as County sensitive were found on site and are described below. The locations of these observations are illustrated on Figure 3. Please refer to Appendix E for an explanation of the status and sensitivity codes.

San Diego sagewort (*Artemisia palmeri*)

Listing: --/--; CNPS List 4.2; County Group D

Distribution: San Diego County and Baja California, Mexico (Baja)

Habitat: Stream courses, often within coastal sage scrub and southern mixed chaparral

Status on site: On site, more than 100 individuals observed, the vast majority of which occur in the upper northwestern corner, with four individuals in the central region

San Diego County viguiera (*Viguiera laciniata*)

Listing: --/--; CNPS List 4.2; County Group D

Distribution: San Diego County and Baja

Habitat: Diegan coastal sage scrub

Status on site: Over 600 individuals observed in the western and eastern portions of the site

3.3.2 Sensitive Plant Species with Potential to Occur

Sensitive plant species that were not observed on site but have potential to occur on site are listed in Table 3. A sensitive plant survey was conducted, and none of these species was found.

Table 3 COUNTY SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS*	POTENTIAL TO OCCUR
California Orcutt grass (<i>Orcuttia californica</i>)	FE/SE CNPS List 1B.1 County Group A	Low. Vernal pools are not present on site. Would have been observed if present.
Otay mesa mint (<i>Pogogyne nudiuscula</i>)	FE/SE CNPS List 1B.1 County Group A	Low. Vernal pools are not present on site. Would have been observed if present.
Willow monardella (<i>Monardella linoides</i> ssp. <i>viminea</i>)	FE/SE CNPS List 1B.1 CA Endemic MSCP Narrow Endemic (NE) County Group A	Low. Occurs on rocky washes generally associated with coastal sage scrub or chaparral. Would have been observed if present.

Table 3 (cont.)
COUNTY SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL TO OCCUR
San Diego button-celery (<i>Eryngium aristulatum</i> var. <i>parishii</i>)	FE/SE CNPS List 1B.1 County Group A	Low. Vernal pools are not present on site. Would have been observed if present.
San Diego ambrosia (<i>Ambrosia pumila</i>)	FE/-- CNPS List 1B.1 County Group A	Low. Occurs in silty-bottomed drainages and valley bottoms. Would likely have been observed if present.
Thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	FT/SE CNPS List 1B.1 CA Endemic County Group A	Low. Occurs in coastal sage scrub, cismontane woodlands, grassland, and vernal pools with clay soils. Would likely have been observed if present.
Otay tarplant (<i>Deinandra conjugens</i>)	FT/SE CNPS List 1B.1 MSCP NE County Group A	Low. Occurs on clay soils in grasslands and coastal sage scrub. Would have been observed if present.
San Diego thorn-mint (<i>Acanthomintha ilicifolia</i>)	FT/SE CNPS List 1B.1 MSCP NE County Group A	Low. Occurs on clay lenses in open areas. Would likely have been observed if present.
Dehesa beargrass (<i>Nolina interrata</i>)	--/SE CNPS List 1B.1 MSCP NE County Group A	Very low. Associated with gabbro or peridotite soils, which are not present on site. Known only from a few locations in southern San Diego County.
Spreading navarretia (<i>Navarretia fossalis</i>)	FT/-- CNPS List 1B.1 County Group A	Low. Vernal pools are not present on site. Would have been observed if present.
Mexican flannelbush (<i>Fremontodendron mexicanum</i>)	FE/SR CNPS List 1B.1 County Group A	Low. Occurs in moist, shaded canyons. The canyons on site do not appear suitable for this species, including the canyon in the eastern portion of the site. Would have been observed if present.
Dean's milk-vetch (<i>Astragalus deanei</i>)	--/-- CNPS List 1B.1 CA Endemic County Group A	Low. Occurs on hillsides in open coastal sage scrub, chaparral, or southern oak woodland, all of which are limited on site. Would have been observed if present.
Otay Mountain lotus (<i>Lotus crassifolius</i> ssp. <i>otayensis</i>)	--/-- CNPS List 1B.1 County Group A	Low. Probably requires more moisture than is present on site. Would have been observed if present.
Snake cholla (<i>Opuntia parryi</i> var. <i>serpentina</i>)	--/-- CNPS List 1B.1 MSCP NE County Group A	Low. Occurs in sage scrub. Would have been observed if present.
Parry's tetraococcus (<i>Tetraococcus dioicus</i>)	--/-- CNPS List 1B.2 County Group A	Low. Occurs on gabbro soils not found on site. Would have been observed if present.

HELIX

Table 3 (cont.)
COUNTY SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL TO OCCUR
Otay manzanita (<i>Arctostaphylos otayensis</i>)	--/-- CNPS List 1B.2 CA Endemic County Group A	Low. Occurs in chaparral. Would have been observed if present.
Lakeside ceanothus (<i>Ceanothus cyaneus</i>)	--/-- CNPS List 1B.2 MSCP NE County Group A	Low. Found in chaparral, which is limited on site. Would have likely been observed if present.
Tecate cypress (<i>Cupressus forbesii</i>)	--/-- CNPS List 1B.1 County Group A	Low. Occurs in closed coniferous forest and chaparral. Would have been observed if present.
Gander's pitcher sage (<i>Lepechinia ganderi</i>)	--/-- CNPS List 1B.3 County Group A	Low. Occurs in chaparral, coastal sage scrub and grassland. Would have been observed if present.
Nuttall's scrub oak (<i>Quercus dumosa</i>)	--/-- CNPS List 1B.1 County Group A	Low. Occurs in chaparral or coastal scrub with sandy or clay loam soils. Would have been observed if present.
Summer holly (<i>Comarostaphylis diversifolia</i>)	--/-- CNPS List 1B.2 County Group A	Low. Occurs in chaparral. Would have been observed if present.
Dunn's mariposa lily (<i>Calochortus dunnii</i>)	--/SR CNPS List 1B.2 County Group A	Low. Typically occurs in closed coniferous forests and chaparral with gabbroic soils (not found on site). Would have been observed if present.
Variegated dudleya (<i>Dudleya variegata</i>)	--/-- CNPS List 1B.2 County Group A	Low. Occurs on dry hillside and mesas in chaparral, coastal sage scrub, grasslands, and near vernal pools. Would likely have been observed if present.
San Diego goldenstar (<i>Muilla clevelandii</i>)	--/-- CNPS List 1B.1 MSCP NE County Group A	Low. Occurs in clay soils on dry mesas and hillsides in coastal sage scrub or chaparral. Would likely have been observed if present.
Decumbent goldenbush (<i>Isocoma menziesii</i> var. <i>decumbens</i>)	--/-- CNPS List 1B.2 County Group A	Low. Occurs in coastal sage scrub on site. An infrequent plant of sandy areas (Beauchamp 1986). Would have been observed if present.
Felt-leaved monardella (<i>Monardella hypoleuca</i> ssp. <i>lanata</i>)	--/-- CNPS List 1B.2 County Group A	Low. Generally occurs on rocky ridges and near peak tops. Would have been observed if present.
Orcutt's bird's-beak (<i>Cordylanthus orcuttianus</i>)	--/-- CNPS List 2.1 County Group B	Low. Would have likely been observed if present.
Palmer's goldenbush (<i>Ericameria palmeri</i> ssp. <i>palmeri</i>)	--/-- CNPS List 2.2 MSCP NE County Group B	Low. Occurs in coastal sage scrub. Would have likely been observed if present.

HELIX

Table 3 (cont.)
COUNTY SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL TO OCCUR
San Diego marsh-elder (<i>Iva bayesiana</i>)	--/-- CNPS List 2.2 County Group B	Low. Occurs in low-lying, moist, or alkaline places along the coast. Has been reported along intermittent streams. Would have been observed if present.
San Diego barrel cactus (<i>Ferocactus viridescens</i>)	--/-- CNPS List 2.1 County Group B	Low to moderate. Occurs on dry slopes in coastal sage scrub. Would have been observed if present.
Palmer's grapplinghook (<i>Harpagonella palmeri</i>)	--/-- CNPS List 4.2 County Group B	Low to moderate. Occurs on clay soils in grasslands and coastal sage scrub. Would likely have been observed if present.
Little mouseltail (<i>Myosurus minimus</i> ssp. <i>apus</i>)	--/-- CNPS List 3.1 County Group A	Low. Occurs in vernal pools and alkaline marshes. Would likely have been observed if present.
Graceful tarplant (<i>Holocarpha virgata</i> ssp. <i>elongata</i>)	--/-- CNPS List 4.2 CA Endemic County Group D	Low. Occurs in coastal sage scrub, cismontane woodland, and valley and foothill grassland. Would have been observed if present.
Cedros Island oak (<i>Quercus cedrosensis</i>)	--/-- CNPS List 2.2	Low. Occurs on the south slope of Otay Mountain and east of Marron Valley. Would have been observed if present.
Munz's sage (<i>Salvia munzii</i>)	--/-- CNPS List 2.2 County Group B	Low. Occurs in coastal sage scrub in the South foothill and coastal region of San Diego County below approximately 1,640 feet in elevation. Would have been observed if present.
California adolphia (<i>Adolphia californica</i>)	--/-- CNPS List 2.1 County Group B	Low. Occurs on clay soils in chaparral and coastal sage scrub. Would have been observed if present.
Southwestern spiny rush (<i>Juncus acutus</i> ssp. <i>leopoldii</i>)	--/-- CNPS List 4.2 County Group D	Low. Occurs in drainages and wetland areas with moist, saline, or alkaline soils. Would have been observed if present.
San Miguel savory (<i>Satureja chandleri</i>)	--/-- CNPS List 1.2 County Group D	Low. Occurs in chaparral. Would have been observed if present.
California adder's tongue (<i>Ophioglossum californicum</i>)	--/-- CNPS List 4.2 County Group D	Low. Occurs around vernal moist areas, which are not present on site. Would likely have been observed if present.
San Diego County needlegrass (<i>Achnatherum diegoense</i>)	--/-- CNPS List 4.2 County Group D	Low. Occurs in mesic areas in chaparral and coastal sage scrub. Would have been observed if present.
Southern mountain misery (<i>Chamaebatia australis</i>)	--/-- CNPS List 4.2 County Group D	Low. Occurs in chaparral. Would have been observed if present.

Table 3 (cont.) COUNTY SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS*	POTENTIAL TO OCCUR
Western dichondra (<i>Dichondra occidentalis</i>)	--/-- CNPS List 4.2 County Group D	Low. Occurs in dry, sandy banks in coastal sage scrub, chaparral, or southern oak woodland and often proliferates on recently burned slopes. Would likely have been observed if present.
Ashy spike-moss (<i>Selaginella cinerascens</i>)	--/-- CNPS Delisted County Group D	Moderate. Occurs on mesas in coastal sage scrub and chaparral. Would likely have been observed if present.
Fish's milkwort (<i>Polygala cornuta</i> var. <i>fishiae</i>)	--/-- CNPS List 4.3 County Group D	Moderate. A cryptic species that grows in the shadows of other plants. Would have been observed if present.

*An explanation of status and sensitivity codes is provided in Appendix E

3.4 ANIMALS

A list of all animal species observed on site is presented in Appendix D.

3.4.1 Sensitive Animal Species Observed

Eight animal species identified as County sensitive were found on site and are described below. The locations of these observations are illustrated on Figure 3. Please refer to Appendix E for an explanation of status and sensitivity codes.

Cooper's hawk (*Accipiter cooperii*)

Listing: Nesting; --/CSC

Distribution: Throughout the continental U.S. excluding Alaska, parts of Montana, and parts of the Dakotas. Winters south to Mexico and Honduras.

Habitat: In San Diego County, tends to inhabit lowland riparian areas and oak woodlands in proximity to suitable foraging areas such as scrublands or fields

Status on site: Observed on the edge of the eucalyptus woodland in the upper northwestern portion of the site. Has potential to breed within riparian woodland and oak woodland on site.

Bell's sage sparrow (*Amphispiza belli belli*)

Listing: --/CSC

Distribution: Lower slopes of the California and northern Baja coast ranges; on the eastern slopes bordering the Central Valley from the San Francisco Bay Area to Trinity County; and on the western slopes of the Sierra Nevada from Calaveras to Madera counties

Habitat: Sunny, dry stands of coastal sage scrub and chaparral. May occasionally be found in other arid habitats such as cismontane juniper woodland and alluvial fan scrub.

Status on site: Observed in sage scrub in two locations on site: one near the eastern-central portion of the site and one in the north-central portion. Has potential to breed on site.

HELIX

Northern harrier (*Circus cyaneus*)

Listing: Nesting; --/CSC

Distribution: Widespread throughout temperate regions of North America and Eurasia. Winters and migrates throughout California from below sea level in Death Valley to an elevation of 9,800 feet. Known breeding areas in San Diego County include Torrey Pines, the Tijuana River Valley, and Camp Pendleton.

Habitat: Coastal, salt, and freshwater marshlands; grasslands; prairies

Status on site: An individual observed foraging over the northeastern portion of the site. Has low potential to breed on site.

California horned lark (*Eremophila alpestris actia*)

Listing: --/CSC

Distribution: Coastal slopes and lowlands from Sonoma County to northern Baja

Habitat: Sandy beaches, agricultural fields, grasslands, and open areas

Status on site: Multiple individuals were observed throughout the agricultural areas on site. May breed on site.

Loggerhead shrike (*Lanius ludovicianus*)

Listing: --/CSC

Distribution: Widespread but declining throughout North America. Winters south to Central America.

Habitat: Open habitats including grasslands, scrublands, and ruderal areas with adequate perching locations

Status on site: One individual was observed perched in vegetation in the eastern-central portion of the site and may breed on site

Red-shouldered hawk (*Buteo lineatus*)

Listing: --/--

Distribution: A breeding resident in the western U.S. (California and northern Baja). Populations from the eastern U.S. winter in the southwestern U.S. and northern Mexico.

Habitat: Open woodlands, grasslands, and agricultural fields. Prefers mature eucalyptus stands, oak woodlands, and riparian forests.

Status on site: Observed in the southeastern corner of the site near the coast live oak woodland. May nest in riparian and oak woodlands on site.

Western bluebird (*Sialia mexicana*)

Listing: --/--

Distribution: Over winters in coastal San Diego County

Habitat: Semi-open terrain, farms, desert, and shrubland habitats

Status on site: Observed foraging over portions of the site

Great blue heron (*Ardea herodias*)

Listing: --/--

Distribution: Fairly common to common throughout the year as a non-breeding visitor. Also occurs as a breeding resident.

Habitat: Bays, lagoons, ponds, and lakes

Status on site: Observed in the agricultural fields on site, but not likely to breed on site

HELIX

3.4.2 Sensitive Animal Species with Potential to Occur

Sensitive animal species that were not observed on site but could potentially occur are listed in Table 4. The key to the status and sensitivity codes is presented in Appendix E. The species are grouped by phylum, then status, and alphabetized (by scientific name) where status is the same.

Although dwarf plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta*) were present on site in small, sparse patches, the Quino checkerspot butterfly was not observed during any of the protocol surveys conducted on the property. No burrowing owls or burrowing owl burrows were observed during the focused surveys conducted. According to the CNDDB, no burrowing owls have been reported within approximately 10 to 15 miles of the project site. The coastal California gnatcatcher was also not observed on site. Based on the habitat assessment, there is no potential for the arroyo southwestern toad to occur on site.

Table 4 COUNTY SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS*	POTENTIAL TO OCCUR
INVERTEBRATES		
San Diego fairy shrimp (<i>Branchinecta sandiegonensis</i>)	FE/-- MSCP Rare, NE	Low. Occurs in vernal pools, which are not present.
Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	FE/-- MSCP Rare, NE	Low. Occurs in vernal pools, which are not present.
Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	FE/-- MSCP Rare, NE	Low. Protocol surveys were conducted, but species not observed. The principal larval host plant in San Diego is dwarf plantain, which was observed on site in small sparse patches. Potential habitat in the region includes vegetation communities with relatively open areas that typically include patches of dwarf plantain, purple owl's clover, and nectaring plants, all of which are present on site.
Harbison's dun skipper (<i>Euphyes vestris harbisoni</i>)	--/-- MSCP Rare, NE	Low. Host plant San Diego sedge (<i>Carex spissa</i>) occurs in small drainages and seasonal seeps on slopes but was not observed on site.
Thorne's hairstreak butterfly (<i>Mitoura thornei</i>)	--/-- MSCP Rare, NE	Low. Known from vicinity of Otay Mountain on host plant Tecate cypress (<i>Cupressus forbesii</i>), not observed on site.
Hermes copper butterfly (<i>Lycaena hermes</i>)	--/--	Low to moderate. Would have been observed during Quino checkerspot butterfly surveys if present. Host plant spiny redberry (<i>Rhamnus crocea</i>) occurs on site.
Monarch butterfly (<i>Danaus plexippus</i>)	--/--	Low to moderate. Would have been observed during Quino checkerspot butterfly surveys if present. Host plant milkweed (<i>Asclepias</i> sp.),

HELIX

		occurs on site.
--	--	-----------------

Table 4 (cont.)
COUNTY SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL TO OCCUR
VERTEBRATES		
Reptiles and Amphibians		
Arroyo southwestern toad (<i>Bufo microscaphus californicus</i>)	FE/CSC MSCP Rare, NE	None. Appropriate habitat does not occur on site.
California red-legged frog (<i>Rana aurora draytonii</i>)	FT/CSC MSCP Rare, NE	None. Occurs in open water and lowland grasslands. Generally found in ponds in humid forests, woodland, grasslands, and stream sides, especially where cattails (<i>Typha</i> spp.) or other plants provide good cover. Frequents marshes, streams, lakes, reservoirs, ponds, and other generally permanent water sources, which are not present on site.
Orange-throated whiptail (<i>Cnemidophorus hyperythrus beldingi</i>)	--/CSC	High in shrub habitats on site.
Red diamond rattlesnake (<i>Crotalus exsul</i>)	--/CSC	Moderate. Favors rocky outcrops in coastal sage scrub, chaparral, creosote bush scrub, and areas dominated by cactus. Also encountered along rocky canyon bottoms and on the flats adjacent to rocky, desert foothills.
Coronado Island skink (<i>Eumeces skiltonianus interparietalis</i>)	--/CSC	Moderate to high. Occurs in grasslands, coastal sage scrub, and open chaparral where there is abundant leaf litter or low, herbaceous growth.
Silvery legless lizard (<i>Anniella pulchra pulchra</i>)	--/CSC	Low to moderate. Occurs in areas with loose soil, particularly in sand dunes and/or otherwise sandy soil. Generally found in leaf litter, under rocks, logs, or driftwood in oak woodland, chaparral, and desert scrub. Prefers soils with a high moisture content.
San Diego horned lizard (<i>Phrynosoma coronatum blainvillei</i>)	--/CSC	Moderate to high. Occurs in coastal sage scrub, chaparral, open oak woodlands, and open coniferous forests. Important habitat components include basking sites, adequate scrub cover, areas of loose soil, and an abundance of harvester ants (<i>Pogonomyrmex</i> sp.), a primary prey item.
Western spadefoot toad (<i>Scaphiopus hammondi</i>)	--/CSC	Low. Occurs near open water.
Two-striped garter snake (<i>Thamnophis hammondi</i>)	--/CSC	Moderate. Found primarily along permanent creeks and streams but also around vernal pools and along intermittent streams. Occasionally found in chaparral or other habitats relatively far

HELIX

		from permanent water.
--	--	-----------------------

Table 4 (cont.)
COUNTY SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

SPECIES	STATUS*	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
Reptiles and Amphibians (cont.)		
Coastal whiptail (<i>Cnemidophorus tigris multiscutatus</i>)	--/--	Moderate to high. Occurs in open coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include open, sunny areas, shrub cover with accumulated leaf litter, and an abundance of invertebrate prey, particularly termites.
Coastal rosy boa (<i>Lichanura trivirgata roseofusca</i>)	--/--	Moderate. Occurs near rocky areas in coastal sage scrub and chaparral.
Western patch-nosed snake (<i>Salvadora hexalepis virgulata</i>)	--/CSC	Moderate. Occurs in shrub habitats on site.
Southwestern pond turtle (<i>Clemmys marmorata pallida</i>)	--/CSC	None. Occurs in open water, which is not present on site.
San Diego banded gecko (<i>Coleonyx variegatus abbottii</i>)	--/--	Low. Occurs in chaparral and coastal sage scrub in areas with rock outcrops on site.
San Diego ringneck snake (<i>Diadophis punctatus similis</i>)	--/--	Moderate. Occurs in canyon bottoms or grassland, chaparral, and coastal sage scrub.
Birds		
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE/SE MSCP Rare, NE	Low. Occurs in riparian woodlands and forests with understories, which are limited on site.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	FE/-- MSCP Rare, NE	Low. Occurs in mature riparian woodlands and forests, which are limited on site.
Coastal California gnatcatcher (<i>Poliophtila californica californica</i>)	FT/CSC	Low. Focused surveys did not locate this species on site.
Southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	--/CSC	Moderate. Occurs in coastal sage scrub on rocky hillsides and in canyons and in open sage scrub/grassy areas of successional growth (e.g., after a fire). Not observed during gnatcatcher surveys.
Ferruginous hawk (<i>Buteo regalis</i>)	Wintering; --/CSC	Low to moderate to forage on site in open grasslands and agricultural fields.
Burrowing owl (<i>Athene cunicularia</i>)	--/CSC MSCP Rare, NE	Low. Focused surveys for this species were conducted, and the species was not observed.
Yellow warbler (<i>Dendroica petechia brewsteri</i>)	--/CSC	Moderate. Occurs in riparian areas, which are present but limited on site.
Yellow-breasted chat (<i>Icteria virens</i>)	--/CSC	Moderate. Occurs in brushy tangles, briars, stream thickets, riparian scrub, and riparian woodland, which is present but limited on site.

HELIX

Table 4 (cont.) COUNTY SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS*	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
Birds (cont.)		
Golden eagle (<i>Aquila chrysaetos</i>)	Nesting and wintering; --/CSC MSCP Rare, NE	Low. Mostly occurs in mountainous regions but may forage in grassy and open, shrubby habitats. Nests most often on cliffs, less often in trees and tends to require places of solitude. Usually found at a distance from human habitation.
Sharp-shinned hawk (<i>Accipiter striatus</i>)	Nesting; --/CSC	Low. Occurs in edges of deciduous or coniferous woodlands and thickets. Breeds in the northern portion of California but is only an uncommon winter visitor to San Diego County. Sometimes a casual visitor to San Diego in the summer.
Merlin (<i>Falco columbarius</i>)	Wintering; --/CSC	Low. Occurs in open woods, coniferous forests, and taiga, frequently found in open country and foothills in winter.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	--/--	Moderate. Occurs in grassland habitat that usually has a mix of coastal sage scrub species.
Turkey vulture (<i>Cathartes aura</i>)	--/--	High. Likely to forage on site but nests on rocky outcrops which are not present.
White-tailed kite (<i>Elanus leucurus</i>)	--/--	Moderate. Nesting typically occurs in riparian or oak woodlands adjacent to grassland where small mammals are hunted.
Common barn owl (<i>Tyto alba</i>)	--/--	High. Likely to forage on site.
Mammals		
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	--/CSC	Moderate. Occurs in chaparral.
Spotted bat (<i>Euderma maculatum</i>)	--/CSC	Low to roost on site (prefers cliffs).
Greater western mastiff bat (<i>Eumops perotis californicus</i>)	--/CSC	Low to roost on site, but may forage for prey. Foraging is concentrated around bodies of water but also includes coastal sage scrub, chaparral, and grassland habitats.
San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	--/CSC	Moderate to high. Occurs primarily in open habitats including coastal sage scrub, chaparral, grassland, croplands, and open, disturbed areas if there is at least some scrub cover present.
Yuma myotis (<i>Myotis yumanensis</i>)	--/CSC	Low to roost on site, but may forage for prey near water on site. Roosts in buildings, mines, caves, and crevices which are absent or limited on site.

Table 4 (cont.) COUNTY SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS*	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
Mammals (cont.)		
San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	--/CSC	Moderate. Occurs in open chaparral and coastal sage scrub, often building large, stick nests in rock outcrops or around clumps of cactus or yucca.
Southern grasshopper mouse (<i>Onychomys torridus ramona</i>)	--/CSC	Moderate. Occurs in arid shrublands.
Townsend's western big-eared bat (<i>Plecotus townsendii</i>)	--/CSC	Low to roost on site. Could forage in the area, especially in more mesic habitats.
American badger (<i>Taxidea taxus</i>)	--/CSC	Low to moderate. Occurs in level, open areas in grasslands, agricultural fields, and open shrub habitats. Digs large burrows in dry, friable soils.
Pallid bat (<i>Antrozous pallidus</i>)	--/CSC	Low to roost on site. Roosts in caves, mines, crevices, and abandoned buildings. Could forage on site, however.
Small-footed myotis (<i>Myotis ciliolabrum</i>)	--/CSC	Low to roost on site. Roosts in caves, mines, crevices, abandoned buildings, and occasionally under bridges and bark. Prefers humid roost sites. Could forage on site, however, especially over water.
Long-eared myotis (<i>Myotis evotis</i>)	--/CSC	Low to moderate to roost on site. Roosts in rock crevices, buildings, under bark, and in snags. Could forage on site, however, especially over water and shrubs.
Fringed myotis (<i>Myotis thysanodes</i>)	--/CSC	Low to moderate to roost on site. Roosts in rock crevices, buildings, mines, and caves. Could forage on site, however, especially over water and open habitats.
Long-legged myotis (<i>Myotis volans</i>)	--/CSC	Low to moderate to roost on site. Roosts in rock crevices, buildings, under tree bark, in snags, mines, and caves. Could forage on site, however, especially over water.
Pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	--/CSC	Low. Prefers rocky desert areas with high cliffs or rock outcrops. Uses pinyon-juniper woodlands, desert scrub, desert wash, and other desert habitats.
Big free-tailed bat (<i>Nyctinomops macrotis</i>)	--/CSC	Low. A rare species in California (CDFG 1990). Prefers rugged, rocky canyons. Roosts in crevices in high cliffs or rock outcrops. Often forages over water sources.

Table 4 (cont.) COUNTY SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR		
SPECIES	STATUS*	POTENTIAL TO OCCUR
VERTEBRATES (cont.)		
Mammals (cont.)		
Ringtail (<i>Bassariscus astutus</i>)	--/--	Low. Found in various riparian habitats and in brush stands of moist forest and shrub habitats at low to middle elevations.
Mountain lion (<i>Felis concolor</i>)	--/--	Low. Main prey, mule deer, was not detected.
Southern mule deer (<i>Odocoileus hemionus</i>)	--/--	Low to moderate. Occurs in coastal sage scrub, riparian and montane forests, chaparral, grasslands, croplands, and open areas if there is at least some scrub cover present. Would have likely been detected if present.

*An explanation of status and sensitivity codes is provided in Appendix E

3.5 JURISDICTIONAL AREAS

Corps, CDFG, and County jurisdictional/RPO wetland areas occur on site (Figure 4). Corps and CDFG jurisdictional areas include streambeds and associated vegetation; County jurisdictional/RPO wetlands include portions of the vegetated streambed along the ephemeral drainage through the middle of the site as shown on Figure 4.

3.5.1 Corps

Corps jurisdiction on site includes 1.31 acre of non-wetland Waters of the U.S.

3.5.2 CDFG

CDFG jurisdiction on site includes 1.31 acres of Corps jurisdictional area plus its associated vegetation, including 0.9 acre of coast live oak woodland, 0.4 acre of riparian woodland, 0.03 acre of mule fat scrub, and 0.04 acre of an isolated sycamore tree in agriculture whose canopy hangs over the jurisdictional drainage.

3.5.3 County Jurisdictional/RPO Wetlands

County jurisdictional/RPO wetlands on site include 0.46 acre of coast live oak woodland, 0.4 acre of riparian woodland, 0.18 acre of vegetated streambed, and 0.24 acre of non-wetland Waters of the U.S. Additionally, an isolated sycamore tree (0.04 acre) in agriculture whose canopy hangs over the County jurisdictional/RPO wetland is considered part of the wetland. The drainage in the southeast corner of the site is not considered an RPO wetland because it does not have at least one of the County jurisdictional/RPO wetland attributes (see Section 2.1.7).

HELIX

4.0 REGIONAL AND REGULATORY CONTEXT

4.1 REGIONAL CONSERVATION CONTEXT

The property is located within the Metro-Lakeside-Jamul Segment of the County's MSCP Subarea Plan. It is not part of that segment's PAMA or a BRCA. As a result, conformance to the County MSCP via conformance to the BMO and County's MSCP Subarea Plan will address all federal, state, and County conservation issues for species covered by the MSCP.

4.2 REGULATORY ISSUES

Biological resources are subject to regulatory review by the federal government, State of California, and County. The federal government administers non-marine plant and wildlife related issues through the USFWS, while wetlands and Waters of the U.S. issues are administered by the Corps. California law relating to wetland, water-related, and wildlife issues is administered by the CDFG.

4.2.1 Federal Government

Administered by the USFWS, the federal ESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

Sections 4(d), 7, and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. Section 10(a) allows issuance of permits for "incidental" take of endangered or threatened species. The term "incidental" applies if the taking of a listed species is incidental to and not the purpose of an otherwise lawful activity. The MSCP is a Section 10(a) permit under the federal ESA.

The Migratory Bird Treaty Act (MBTA) prohibits the take or transport of native migratory birds or any part, nest, or egg of any such bird unless allowed by another regulation adopted in accordance with the MBTA.

Federal wetland regulation (non-marine issues) is guided by the Rivers and Harbors Act of 1899 and the Clean Water Act. The Rivers and Harbors Act deals primarily with discharges into navigable waters, while the purpose of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of all Waters of the U.S. Permitting for projects filling Waters of the U.S. (including wetlands and vernal pools) is overseen by the Corps under Section 404 of the Clean Water Act. Projects may be permitted on an individual basis or may be covered under one of several approved nationwide permits. Individual permits are assessed individually based on the type of action, amount of fill, etc. Individual permits typically require substantial time (often longer than six months) to review and approve, while nationwide permits are pre-approved if a project meets appropriate conditions. It is currently assumed that a Nationwide 39 Section 404 Permit will be needed for the project.

HELIX

LEGEND

Jurisdictional Areas

SB

Streambed

CLOW

Coast Live Oak Woodland

RW

Riparian Woodland

AG

Agriculture (Isolated sycamore tree)

Waters of the U.S. (width shown in feet)

Waters of the U.S. Area

Waters of the U.S./County Jurisdictional/RPO Wetlands

County Jurisdictional/RPO Wetlands

RPO Buffer

Proposed Project

Project Impacts

Limited Building Zone

Biological Open Space

*

Groundwater Monitoring Location



4.2.2 State of California

The California ESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impacts to listed species. Section 2081 of the California ESA authorizes CDFG to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes. The MSCP is a 2081 permit under the state ESA.

The Native Plant Protection Act (NPPA) enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The California ESA followed NPPA and covers both plants and animals that are determined to be threatened or endangered with extinction.

The California Fish and Game Code (Sections 1600 et seq.) requires an agreement with CDFG for projects affecting riparian and wetland habitats through issuance of a Streambed Alteration Agreement. It is assumed that the project will require a CDFG 1602 Agreement.

The California Natural Communities Conservation Program (NCCP) Act (Section 2835) allows the CDFG to authorize take of species covered by plans in agreement with NCCP guidelines. An NCCP initiated by the State of California under Section 4(d) of the federal ESA focuses on conserving coastal sage scrub in order to avoid the need for future federal and state listing of coastal sage scrub-dependent species. The coastal California gnatcatcher is presently listed as threatened under the federal ESA, while several additional species inhabiting coastal sage scrub are candidates for federal listing. The MSCP is considered a completed plan under NCCP.

4.2.3 County of San Diego

The County regulates natural resources via its RPO, whose regulations cover wetlands, wetland buffers, and sensitive habitat lands. Wetland habitats are defined per the County RPO, which requires that open space easements be placed over wetlands and wetland buffers and may restrict development on sensitive habitat lands. Sensitive habitat lands are identified by the RPO as lands that “support unique vegetation communities, or habitats of rare or endangered species or sub-species of animals or plants as defined by Section 15380 of the CEQA Guidelines.”

The South County MSCP program was adopted by the County Board of Supervisors on October 22, 1997. Furthermore, the County’s BMO enables the County to achieve conservation goals of the County’s MSCP Subarea Plan. The BMO sets forth criteria for avoiding impacts to BRCA’s and to plant and animal populations within those areas, and the mitigation requirements for all projects requiring discretionary permits. In accordance with the BMO, the County requires avoidance of impacts to 80 percent of County Group A and B sensitive plants.

CEQA and its implementing guidelines (CEQA Guidelines) require projects that potentially have significant effects (or impacts) on the environment to be submitted for environmental review. Significant impacts to the environment are typically mitigated through the environmental review process, in accordance with existing laws and regulations.

5.0 IMPACTS

The following section describes potential direct and indirect impacts associated with the project. Direct impacts are described based on the all areas not included in biological open space.

5.1 CRITERIA FOR DETERMINING SIGNIFICANCE

A project will have a significant adverse environmental effect related to biology if any of the following occur as a result of a project-related component:

1. A block of habitat considered essential to the local or regional biological environment will be eliminated or substantially degraded such that it no longer provides the same function or value.
2. Activities within or adjacent to corridors, linkages, or other areas utilized for wildlife movement will:
 - a. Prevent wildlife from accessing areas considered necessary to their survival;
 - b. Restrict wildlife from utilizing their natural movement paths; or
 - c. Further constrain a narrow corridor by reducing width, removing available vegetative cover, creating edge effects, or placing barriers in the movement path.
3. On- or off-site habitat will be subjected to substantial edge effects, including:
 - a. Post-construction noise levels in excess of 60 dB during daytime hours and 50 dB during nighttime hours;
 - b. Artificial light in excess of 0.005-foot candles (half as bright as a full moon);
 - c. A drawdown of the groundwater table of three feet or more below historic low groundwater table elevation (for groundwater-dependent species or habitat);
 - d. Potential for encroachment of any kind, including but not limited to clearing within preserved areas and unauthorized pedestrian, equestrian, or off-road vehicle traffic;
 - e. Habitat degradation through unrestrained domestic pets or invasive plants or animals; or
 - f. Water runoff causing a change in natural moisture levels and/or increasing the spread of pollution and pesticides.
4. The natural biological diversity and habitat associations are not being preserved in a contiguous, functional block, thereby compromising the health and viability of the ecosystem.
5. Any of the following will occur to or within County jurisdictional/RPO-defined wetlands: removal of associated vegetation; grading; obstruction or diversion of water flow; change in velocity or siltation rate; placement of fill; placement of structures; construction of a road crossing; placement of culverts or other underground piping; any disturbance of the substratum; and/or any activity that may cause a change in species composition, diversity, and abundance.
6. Any component of native or naturalized habitat will be removed through grading, clearing, and/or other construction activities.

7. The value of habitat will be “moderately to significantly” degraded either immediately or in the long-term as indicated by one of the following:
 - a. A change in species composition, diversity, or abundance;
 - b. A decline in the value or function of the habitat.
8. Direct, indirect, and/or cumulative impacts may occur that may be detrimental to the regional long-term survival of a Group II animal or County BMO listed Group C or D plant species.
9. Direct, indirect, and/or cumulative impacts may reduce the local population of a plant species listed as federally or state endangered or threatened, MSCP Critical Populations, MSCP Narrow Endemics, or County Group A or B by more than 20 percent, or cause impacts that may be considered detrimental to the regional long-term survival of this species.
10. Direct, indirect, and/or cumulative impacts that may be considered detrimental to the regional long-term survival of a local population of an animal species listed as federally or state endangered or threatened or Species of Special Concern, MSCP Narrow Endemics, or listed as County Sensitive.
11. Grading, clearing, construction, or other activities (except for passive recreation) will occur within 500 feet of occupied breeding or non-breeding wetland habitat for the arroyo southwestern toad.
12. Grading, clearing, construction, or other activities (including passive and active recreation) will occur within 4,000 feet of an active golden eagle nest during the breeding season (February 15 to July 15).
13. Long-term or permanent development or active recreational uses will occur within 4,000 feet of an active golden eagle nest.
14. Grading, clearing, and/or construction will occur within the following distances and within the following time periods for one or more of these species:

Species	Distance	Breeding Season
Coastal cactus wren	300 feet from occupied habitat	February 15 to August 15
Coastal California gnatcatcher	300 feet from occupied habitat	March 1 through August 15
Least Bell's vireo	300 feet from occupied habitat	March 15 to September 15
Southwestern willow flycatcher	300 feet from occupied habitat	May 1 to September 1
Tree-nesting raptors	300 feet from occupied habitat	February 15 to July 15
Ground-dwelling raptors	800 feet from occupied habitat	February 15 to July 15

15. Substantial raptor foraging habitat will be removed.
16. The project does not conform to the goals or requirements of the MSCP, County Subarea Plan, or BMO.

HELIX

17. The project does not conform to the requirements regarding wetlands, wetland buffers, or sensitive habitat lands as outlined in the RPO.
18. The project does not conform to the goals and requirements as outlined in an applicable Habitat Conservation Plan (HCP), Habitat Management Plan (HMP), Special Area Management Plan (SAMP), or similar regional planning effort.
19. The project does not conform to the goals and requirements of applicable federal or state regulations, including but not limited to the federal ESA, Migratory Bird Treaty Act, Bald Eagle Protection Act, Clean Water Act, Porter-Cologne Water Quality Act, and California Fish and Game Code.

5.2 DIRECT IMPACTS

The following section describes potential direct impacts (including fire clearing within the limited building zones and proposed trails) associated with the proposed project.

5.2.1 Vegetation Communities

The proposed project would impact sensitive vegetation communities on site, including 0.04 acre of oak root zone buffer (from a trail in open space), 22.8 acres of Diegan coastal sage scrub, 2.2 acres of disturbed Diegan coastal sage scrub, 3.1 acre of southern mixed chaparral, and 22.2 acres of non-native grassland (Figure 5; Table 5). Off-site road improvements to SR 94 would impact 0.6 acre of one sensitive vegetation community, non-native grassland (Figure 5; Table 5). Impacts to native or naturalized vegetation communities through grading, clearing, and/or other construction activities are considered significant pursuant to Significance Criterion 6 and the County BMO and MSCP Subarea Plan, which require mitigation for such impacts.

Table 5 DIRECT IMPACTS TO SENSITIVE VEGETATION COMMUNITIES		
VEGETATION COMMUNITY	ACREAGE	
	Existing	Impacted
Coast live oak woodland	0.9	0.0
Riparian woodland	0.4	0.0
Oak root zone buffer	0.0	0.04
Diegan coastal sage scrub	27.4	22.8
Diegan coastal sage scrub – disturbed	2.2	2.2
Southern mixed chaparral	3.1	3.1
Non-native grassland on site	25.0	22.2
Non-native grassland off site	0.6	0.6
TOTAL	59.6	50.9

LEGEND

Vegetation

Mule Fat Scrub (63310)

Coast Live Oak Woodland (71160)

Riparian Woodland (62000)

Isolated Sycamore (62400)

Diegan Coastal Sage Scrub (32500)

Diegan Coastal Sage Scrub Disturbed (32500)

Southern Mixed Chaparral (37120)

Non-native Grassland (42200)

Non-native Vegetation (11000)

Eucalyptus Woodland (11100)

Agriculture (18000)

Disturbed Habitat (11300)

Developed (12000)

Note: Numbers in parentheses represent the Holland code for the vegetation type.

Sensitive Resources

COHA

SASP

LOSH

NOHA

HOLA

GBHE

RSHA

WEBL

VI

Ap

Cooper's Hawk (*Accipiter cooperii*)

Sage Sparrow (*Amphispiza belli belli*)

Loggerhead Shrike (*Lanius ludovicianus*)

Northern Harrier (*Circus cyaneus*)

California Horned Lark* (*Eremophila alpestris actia*)

Great Blue Heron (*Ardea herodias*)

Red-shouldered hawk (*Buteo lineatus*)

Western Bluebird (*Sialia mexicana*)

San Diego County Vigiera (*Viguiera lacinata*)

San Diego Sagewort (*Artemisia palmeri*)

* This species occurs throughout the Agriculture vegetation type.

Project Impacts

Limited Building Zone

Biological Open Space

Trails

Groundwater Monitoring Location

Vegetation and Sensitive Resources/Impacts

PEACEFUL VALLEY RANCH

HELIX

Figure 5

In addition, the proposed project would impact 102.3 acres of agricultural land, 5.5 acres of developed land, 9.2 acres of disturbed habitat, and 0.6 acre of non-native vegetation. Installation of the off-site groundwater monitoring well would impact approximately 0.15 acre of disturbed habitat. The monitoring well would be accessed for installation, monitoring, and maintenance via an existing dirt road. All of these impacts would be less than significant because they do not occur to native or naturalized vegetation communities (Significance Criterion 6).

5.2.2 Sensitive Plant Species

The project will impact two sensitive plant species: San Diego County viguiera (all 600 individuals) and San Diego sagewort (approximately 66 individuals). Neither species is listed by federal or state agencies as rare, endangered, threatened, or of special concern. They are, however, considered County Group D species, which means that they are uncommon plants of limited distribution but not presently rare or endangered. Neither of these populations is considered regionally significant, and the project impacts would not be detrimental to the regional long-term survival of the species (Significance Criterion 8). Therefore, these impacts are considered less than significant.

5.2.3 Sensitive Animal Species

The proposed project may impact eight County sensitive species that were observed on the site: Cooper's hawk, Bell's sage sparrow, northern harrier, California horned lark, loggerhead shrike, western bluebird, great blue heron, and red-shouldered hawk (Figure 5). None of these species is listed as endangered or threatened under the federal or state ESAs; the northern harrier and Cooper's hawk are covered species under the MSCP. Because impacts to these species would not result in impacts considered detrimental to the regional long-term survival of a local population (Significance Criterion 10), these impacts are not considered significant. Direct impacts to avian species that may breed on site would be considered significant if it is determined that active nests occur on site (Significance Criteria 14 and 19).

5.2.4 Jurisdictional Impacts

The project would impact 0.32 acre of non-wetland Waters of the U.S. under Corps jurisdiction (Figure 4). These impacts would be considered significant if the project does not conform to the goals and requirements of applicable federal regulations, including the Clean Water Act (Significance Criterion 19).

The project would impact 0.32 acre of CDFG jurisdiction that includes the 0.32 acre of Corps jurisdiction. The other areas under CDFG jurisdiction on site (e.g., riparian woodland) would not be impacted by the project and are included in biological open space (Figure 4). Impacts to CDFG jurisdiction would be considered significant if the project does not conform to the goals and requirements of applicable state regulations, including the Porter-Cologne Water Quality Act and California Fish and Game Code (Significance Criterion 19).

The project would not impact any County jurisdictional/RPO wetlands, and it provides the required 25- and 50-foot buffers adjacent to these wetlands on site (Figure 4).

5.2.5 Corridors

The site lies outside of any identified regional or local wildlife corridor or linkage. Natural features on site such as the creek beds draining the central and eastern portions of the site may provide for some local wildlife movement. This local wildlife movement would not connect with significant amounts of open space to the west, north or east, but would connect with open space to the south. Given the fragmented nature of habitat north of the property and limited habitat values on site, this connection with open space to the south would serve primarily to maintain movement for predators such as coyotes within fragmented habitat patches. Because the project will not prevent wildlife from accessing areas considered necessary for their survival, will not restrict wildlife from utilizing their natural movement paths, or further constrain a narrow corridor by reducing width, removing available vegetative cover, creating edge effects, or placing barriers in the movement path, impacts to wildlife movement (Significance Criterion 2) would be less than significant from project implementation.

5.3 INDIRECT IMPACTS

Potential indirect impacts from project construction and/or development include decreased water quality (through sedimentation, urban contaminants, or fuel release), effects from grading, fugitive dust, colonization of non-native plant species in open space areas, edge effects, animal behavioral changes, roadkill, attraction of nuisance animal species, and night lighting.

5.3.1 Water Quality

Water quality in riparian areas on site or downstream can be adversely affected by potential surface runoff and sedimentation during construction. The use of petroleum products (fuels, oils, lubricants) and erosion of cleared land during construction could potentially contaminate surface water. Decreased water quality can adversely affect vegetation, aquatic animals, and terrestrial wildlife that depend upon the surface water. Compliance with the following regulations will be achieved as part of the project, so impacts to surface water quality would be less than significant (Significance Criterion 3f).

During construction, measures would be implemented as part of the project to control erosion, sedimentation, and pollution that could impact water resources on and off site. The project will be required to comply with Sections 87.414 and 87.417 of Division 7 (Excavation and Grading) of the San Diego County Zoning and Land Use Regulations, which requires erosion control measures. Prior to the commencement of grading, a Notice of Intent must be filed with the RWQCB for a National Pollutant Discharge Elimination System General Construction Storm Water Permit. Specific permit requirements include implementation of an approved Storm Water Prevention Plan, which requires best management practices for erosion and sediment control related to construction activities. Standard measures that may apply to the proposed project include:

- Surface drainage will be designed to collect and move runoff into adequately sized natural stream channels or drainage structures.
- Erosion control measures associated with the project will include techniques for both long- and short-term erosion hazards pursuant to direction by a hydrologic or engineering consultant. These

are likely to include such measures as the short-term use of sandbags, matting, mulches, berms, hay bales, or similar devices along all pertinent graded areas to minimize sediment transport. The exact design, location, and schedule of use for such devices will be determined by a hydrologic or engineering consultant.

- Native vegetation will be preserved whenever feasible, and all disturbed areas will be reclaimed as soon as possible after completion of grading. Native topsoil will be stockpiled and reapplied as part of the site revegetation whenever possible.
- Use of energy dissipating structures (e.g., detention ponds, riprap, or drop structures) as deemed necessary by a hydrologic or engineering consultant will be used at storm drain outlets, drainage crossings, and/or downstream of all culverts, pipe outlets, and brow ditches to reduce velocity and prevent erosion.
- A maintenance plan for temporary erosion control facilities will be established. This typically involves inspection, cleaning, and repair operations being conducted after runoff-producing rainfall.
- Removal and disposal of ground water (if any) encountered during construction activities will be coordinated with the RWQCB to ensure proper disposal methods and locations under a General Dewatering Permit. This may involve specific measures such as removing excess sediment (through the use of desilting basins, etc.) and limiting discharge velocity.
- Specified fueling and maintenance procedures will be designated to preclude the discharge of hazardous materials used during construction (e.g., fuels, lubricants, and solvents). Such designations will include specific measures to preclude spill including proper handling and disposal techniques.

5.3.2 Construction Noise

Construction noise would occur from grubbing, grading, and construction. All activities would be performed with appropriate permits and within the requirements of all applicable regulations. Impacts would be significant if grading, clearing, and/or construction occurs within 300 feet of tree-nesting raptors or 800 feet of ground-nesting raptors (a red-tailed hawk nest is known to occur just off site; Significance Criterion 14).

Grubbing, grading, and construction noise will also be a temporary impact to other local (non-sensitive) wildlife (Significance Criterion 2b). The activity may temporarily displace wildlife from the vicinity of the grading and construction; once complete, wildlife is expected to return to areas close to residential lots, so this impact is considered less than significant.

5.3.3 Fugitive Dust

Fugitive dust produced by construction could disperse onto vegetation in proposed open space areas. Effects on vegetation due to airborne dust could occur adjacent to construction. A continual cover of dust may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease; in turn, this could affect animals dependent on these plants (Significance Criteria 7b and 8). Dust control will comply with County grading regulations as part of the project, including application of water on unpaved, unvegetated surfaces

during construction. Therefore, fugitive dust impacts to sensitive vegetation on site would be less than significant.

5.3.4 Non-native Plant Species

Non-native plants could colonize sites disturbed by construction and could potentially spread into adjacent native habitats, especially following a disturbance such as fire. Many of these non-native plants are highly invasive and can displace native vegetation reducing native species diversity, potentially increase flammability and fire frequency, change ground and surface water levels, and potentially adversely affect native wildlife that is dependent on the native plant species. Further colonization by non-native plant species in non-impact areas and the resulting degradation of the open space for use by native species would be considered a significant impact (Significance Criteria 3e and 7).

5.3.5 Edge Effects

Edge effects occur when blocks of habitat are fragmented by development. These edges make it easier for non-native plant species to invade native habitats and for native and non-native predators to access prey that may have otherwise have been protected within large, contiguous blocks of habitat. In addition, secondary extinctions through disruption of predator-prey, parasite-host, and plant-pollinator relations could occur (Soulé 1986). Because of the existing agriculture and residential uses currently occurring on the site (contiguous block of habitat does not occur on site; Significance Criteria 1 and 4), the type of development proposed, and the setbacks required for the Limited Building Zones, these impacts are considered less than significant.

5.3.6 Domestic Pets

The project has potential for nuisance species and domesticated animals to impact native wildlife. Domestic animals (e.g., cats and dogs) could significantly impact native wildlife in the immediate area. In addition, residential uses may introduce Argentine ants (*Linepithema humile*) to local habitats, which could have significant consequences for native ant species and animals that feed on them. The introduction of nuisance or domesticated animal species into open space would be potentially significant (Significance Criterion 3e).

5.3.7 Human Activity

Increases in human activity in the area could result in degradation of sensitive vegetation by further fragmenting habitat and forming edges through the creation of roads and trails and removing existing vegetation. In addition, illegal dumping of lawn and garden clippings, trash, and other refuse could occur (Significance Criterion 3d). The project design includes split rail fencing along both sides of all of the equestrian/pedestrian trails where adjacent to biological open space to help protect biological open space from the potential effects of human activity. Still, these impacts would be considered significant if sensitive habitats are degraded.

5.3.8 Animal Behavioral Changes

Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction activity, which could lead to reduced reproductive success and increased mortality.

Grading, clearing, and construction activities may result in an impact on breeding birds and mammals. However, because the site is not part of a larger block of habitat considered locally or regionally essential (Significance Criteria 1), is not a part of a corridor or linkage (Significance Criteria 2), no federally or state listed animal species were observed on site (Significance Criteria 10), and has no impacts to the regional long-term survival of a local population of an animal species listed as federally or state endangered or threatened, Species of Special Concern, MSCP Narrow Endemics, or County Sensitive (Significance Criteria 10), indirect project impacts to animals in the form of behavior changes are expected to be less than significant. Raptors were also observed on site and are susceptible to disturbance from construction activities. However, little suitable habitat (usually large trees) for raptor nesting occurs on site. Grading, clearing, and construction activities could result in an indirect impact on breeding raptors by causing temporary displacement. However, because the site is not part of a larger block of habitat considered locally or regionally essential (Significance Criteria 1), is not part of a corridor or linkage (Significance Criteria 2), is not known to occur within 4,000 feet of an active golden eagle nest (Significance Criteria 12 and 13), and will not result in the removal of substantial raptor foraging habitat (Significance Criteria 15), indirect project impacts to raptors in the form of behavior change are expected to be less than significant.

5.3.9 Roadkill

Roadkill could occur as vehicles travel on the internal roads associated with the project. While roadkill impacts could increase, they are expected to be less than significant because no federally or state listed species were found on site, and the project is located within existing rural development (Significance Criteria 8 and 10).

5.3.10 Night Lighting

Night lighting on native habitats can provide nocturnal predators with an unnatural advantage over their prey. This could cause an increased loss in native wildlife that could be significant, especially for any sensitive species that could occur on the site. However, due to the rural setting of this project, the only street lighting will be at the SR 94/Melody Road/Peaceful Valley Ranch Road intersection, which is not adjacent to any open space. No street lighting on site is proposed, and each home site will be at least 100 feet from sensitive habitat due to fire-clearing requirements. Lighting impacts are therefore considered less than significant (Significance Criterion 3b).

5.3.11 Errant Construction

Limited building zones per the Wildfire Safety/Vegetation Management Master Plan (Scott Franklin Consulting 2004) are provided adjacent to biological open space that would protect on- and off-site open space from indirect impacts. However, the potential still exists for errant construction impacts outside the construction limits on site. Any grading, habitat clearing, or other impacts that inadvertently occur outside the limits of construction in sensitive habitat would be significant (Significance Criteria 3d and 6).

5.3.12 Groundwater Drawdown

The distance from the proposed project irrigation well to the closest groundwater-dependent plant species (sycamore) is approximately 215 feet (Figures 4 and 5). At this distance, under four different

pumping scenarios that varied in pumping rate, pumping duration, and groundwater flow variables, the estimate of drawdown from the pumping well ranged from a maximum of 3.3 feet to 0.9 foot. For the scenario where the well was pumped at a higher rate but for a shorter period of time, an estimated drawdown of 3.3 to 1.4 feet was calculated. Under the lower pumping rate and longer pumping duration evaluation, the maximum drawdown is only 2.1 feet (Wiedlin & Associates 2006). In the worst-case drawdown scenario, estimated drawdown could exceed Significance Criterion 3c (3 feet or more below historic low groundwater table elevation). Therefore, potential impacts on groundwater drawdown for groundwater dependant plant species are considered significant.

6.0 PROPOSED MITIGATION MEASURES

The project would significantly impact sensitive vegetation communities/habitats and species through direct loss and could cause significant indirect impacts as well. Mitigation measures and ratios used below are based on the County BMO and MSCP Subarea Plan. A Biological Open Space Easement would be placed on all areas outside the grading and brush management areas; this open space would not count toward project mitigation (i.e., it would be impact neutral); all project mitigation would occur off site. The proposed mitigation measures are based on project impacts as detailed in Table 6.

Table 6 MITIGATION FOR DIRECT IMPACTS TO SENSITIVE VEGETATION COMMUNITIES					
VEGETATION COMMUNITY	ACRE(S)			MITIGATION	
	On Site	Biological Open Space (Impact Neutral)	Impacted	Ratio*	Acres Required
Coast live oak woodland	0.9	0.9	0.0	1:1	0.0
Oak root zone buffer (mitigated with coast live oak woodland)	0.0	0.0	0.04	1:1	0.04
Diegan coastal sage scrub	27.4	4.5	22.8	1:1	22.8
Diegan coastal sage scrub – disturbed	2.2	0.0	2.2	1:1*	2.2
Southern mixed chaparral	3.1	0.0	3.1	0.5:1	1.6
Non-native grassland (on site)	25.0	2.9	22.2	0.5:1	11.1
Non-native grassland (off site)	0.6	0.0	0.6	0.5:1	0.3
TOTAL	59.2	8.3	50.9	--	38.1

*Mitigation ratio for mitigation within a BRCA

6.1 DIRECT IMPACTS

Vegetation Communities

Impact 6.1.1 Significant impacts would occur to 0.04 acre of oak root zone buffer, 22.8 acres of Diegan coastal sage scrub, 2.2 acres of disturbed Diegan coastal sage scrub, 3.1 acres of southern mixed chaparral, 22.2 acres of non-native grassland on site, and 0.6 acre of non-native grassland off site through direct loss.

Mitigation Measure (MM)

6.1.1 As a mitigation measure to avoid potential impacts, a biological open space easement shall be placed on all areas of native vegetation within proposed project open space, which would conserve 0.73 acre of coast live oak woodland, 0.43 acre of riparian woodland, 4.0 acres of Diegan coastal sage scrub, and 2.5 acres of non-native grassland in perpetuity. Biological buffers (50 feet for coast live oak woodland and riparian woodland and 25 feet for vegetated streambed) shall also be provided within the biological open space easement. Permanent signage shall be provided identifying the limits of the biological open space easement.

Impacts to oak root zone buffer, Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, southern mixed chaparral, non-native grassland, and 0.04 acre of oak root zone buffer shall be mitigated through off-site mitigation as follows.

A minimum of 38.1 acres of upland habitats (that includes 0.04 acre of coast live oak woodland) shall be acquired at a County-approved mitigation bank within the MSCP to mitigate for impacts to oak root zone buffer, Diegan coastal sage scrub (including disturbed), southern mixed chaparral, and non-native grassland (on and off site). Alternatively, the required habitat types and acreage could be preserved and managed in permanent biological open space in a County-approved location in accordance with a County-approved Habitat Management Plan. Any off-site mitigation must be within the MSCP in an area designated as PAMA or meeting the definition of a BRCA.

Although impacts to sensitive plant species are considered less than significant, in accordance with the Biological Mitigation Ordinance (BMO), impacts to Group D plant species shall be mitigated through the habitat-based mitigation as detailed in MM 6.1.1.

Impact 6.1.2 Impacts to the sensitive avian species that may breed on site (e.g., Cooper's hawk, Bell's sage sparrow, northern harrier, California horned lark, loggerhead shrike, and red-shouldered hawk) would be significant if it is determined that nesting is occurring in the vicinity of the grubbing, grading, and construction.

MM 6.1.2 In order to ensure compliance with the MBTA, clearing of native vegetation shall occur outside of the breeding season of most avian species (February 15 through September 15; see Significance Criteria 14 and 19). Clearing during the breeding season of MBTA covered species could occur if it is determined that no nesting birds (or birds displaying breeding or nesting behavior) are present immediately prior to clearing and would require approval of the Director of Planning and Land Use through written concurrence from the USFWS and CDFG that no breeding or nesting avian species are present in the vicinity of the grubbing, grading, and construction.

Impact 6.1.3 The project would impact 0.32 acre of non-wetland Waters of the U.S. under the jurisdiction of the Corps and CDFG.

MM 6.1.3 Impacts to 0.32 acre of Corps and CDFG jurisdiction shall be mitigated by the purchase of credits worth 0.32 acre at the Rancho Jamul Mitigation Bank or other

HELIX

bank approved by the Director of Planning and Land Use.

6.2 INDIRECT IMPACTS

- Impact 6.2.1* Construction noise would occur from grubbing, grading, and construction. Impacts would be significant if raptors were displaced from their nests and failed to breed as a result.
- MM 6.2.1* The following is to be placed on the grading and/or improvement plans and Final Map: Restrict all brushing, clearing and/or grading such that none will be allowed within 300 feet of occupied tree-nesting raptor habitat or 800 feet within ground-nesting raptor habitat during the breeding season (Significance Criterion 14) defined as occurring between February 15 through July 15. The Director of Planning and Land Use may waive this condition through written concurrence from the USFWS and CDFG that no raptors are present in the vicinity of the brushing, clearing or grading.
- Impact 6.2.2* Colonization of non-native plant species (weeds) in non-impact areas and the resulting degradation of native habitats would be significant should it occur.
- MM 6.2.2* Areas that are impacted but undeveloped (e.g., cut or fill slopes) shall be revegetated with native species or non-invasive non-natives immediately after ground disturbance is completed.
- Impact 6.2.3* The introduction of nuisance or domesticated animal species into open space would be potentially significant.
- MM 6.2.3* Potential impacts of pets and nuisance animal species (e.g., Argentine ants) on wildlife shall be mitigated through informational signage and permanent fencing.
- Impact 6.2.4* Increases in human activity in the area could result in degradation of sensitive vegetation by further fragmenting habitat and forming edges through the creation of roads and trails and removing existing vegetation. In addition, illegal dumping of lawn and garden clippings, trash, and other refuse could occur. These impacts would be considered significant.
- MM 6.2.4* Permanent fencing shall be provided bordering all biological open space. In addition, permanent fencing will be provided along sides of all trails adjacent to biological open space. In addition, preserved habitat shall be posted with signs precluding access and prohibiting dumping. Residents shall be educated through signage in access restrictions, control of domestic animals, prevention of irrigation runoff, and sensitivity of habitats on site.
- Impact 6.2.5* Any construction impacts outside the limits in sensitive habitat would be significant.
- MM 6.2.5* Temporary fencing shall be required where proposed grubbing, clearing, or grading is

HELIX

within 100 feet of biological open space. Furthermore, all construction limits shall be clearly delineated with temporary fencing, such as silt fencing or fiber rolls and orange construction fencing to ensure that construction activity remains within the defined limits evaluated in this analysis. A qualified biologist shall inspect the fencing and shall monitor construction activities occurring adjacent to the construction limits to avoid unauthorized impacts. The project proponent shall provide evidence to the Department of Planning and Land Use in a letter that the biologist has been contracted, has completed monitoring, and requirements have been met successfully.

Impact 6.2.6 Groundwater drawdown exceeding 3 feet below the historic low groundwater table elevation would be significant.

MM 6.2.6 The project will implement monitoring and mitigation requirements consistent with the Groundwater Resource Evaluation report (Wiedlin & Associates 2006).

7.0 CONCLUSION

The project site supports mostly agriculture along with several drainages, coastal sage scrub, chaparral and non-native grassland habitats. Two sensitive plant species and six sensitive animal species were observed on site. No federally or state listed threatened or endangered plant or animal species were observed on or near the site. Coastal California gnatcatcher and Quino checkerspot butterfly surveys were negative despite the presence of host plants or potentially suitable habitat.

The proposed project would directly and significantly impact sensitive vegetation communities including Diegan coastal sage scrub (including disturbed), southern mixed chaparral, non-native grassland, and federal and state jurisdictional areas. It could also have significant indirect impacts to/from non-native plant species, domestic pets, human activity, errant construction, and groundwater drawdown. Overall, the project impacts to biological resources will be fully mitigated by the measures described herein pursuant to the BMO and MSCP Subarea Plan and other federal, state, and County regulations.

8.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the fieldwork or preparation of this report:

Julia Auckland	M.S., Ecology and Evolutionary Biology, Iowa State University, 2001 B.S., Fisheries and Wildlife Science, North Carolina State University, 1994
Barry L. Jones	B.A., Biology, Point Loma Nazarene College, 1982 USFWS Permit 778195
Deborah Leonard	B.A., Geography, San Diego State University, 1990 USFWS Permit 778195
Erik LaCoste	USFWS Permit 027736
Amy Mattson	M.S., Marine Biology, Scripps Institution of Oceanography, 1999 B.S., Biology, University of California-Los Angeles, 1994 USFWS Permit 778195
Brian Parker	M.A., Biology, University of California at Los Angeles, 1996 B.S., Ecology, Behavior, and Evolution, University of California-San Diego, 1992 USFWS Permit 778195
Kathy Pettigrew	B.S., Wildlife Biology, Colorado State University, 2001 USFWS Permit 778195
Dale Ritenour	B.S., Biology, Emphasis in Ecology, San Diego State University, 1998 USFWS Permit 778195
W. Larry Sward	M.S., Biology, San Diego State University, 1979 B.S., Biology, San Diego State University, 1975 USFWS Permit 778195
Scott Taylor	B.A., Biology, Point Loma Nazarene College, 1990 USFWS Permit 778195

9.0 REFERENCES

- American Ornithologists' Union. 2006. List of the 2,041 Bird Species (with Scientific and English Names) Known from the AOU Check-list Area. URL: <http://www.aou.org/checklist/birdlist47.pdf>.
- Baker, R.J., L.C. Bradley, R.D. Bradley, J.W. Drago, M.D. Engstrom, R.S. Hoffmann, C.A. Jones, F. Reid, D.W. Rice, and C. Jones. 2003. Revised checklist of North American mammals north of Mexico. Occasional Papers of the Museum, Texas Tech University 223.
- Beauchamp, R.M. 1986. A Flora of San Diego County, California. Sweetwater Press, National City, California. 241 pp.
- Bowman, R. 1973. Soil Survey of the San Diego Area. USDA in cooperation with the USDI, UC Agricultural Experiment Station, Bureau of Indian Affairs, Department of the Navy, and the U.S. Marine Corps.
- California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDDB). 2006a. State and Federally Listed Endangered, Threatened, and Rare Plants of California. State of California, The Resources Agency, Habitat Conservation Division, Wildlife & Habitat Data Analysis Branch. URL: <http://www.dfg.ca.gov/whdab/pdfs/TEPlants.pdf>. May.
- 2006b. State and Federally Listed Endangered and Threatened Animals of California. State of California, The Resources Agency, Department of Fish and Game Biogeographic Data Branch. URL: <http://www.dfg.ca.gov/whdab/pdfs/TEAnimals.pdf>. July.
- Collins, Joseph T. and Travis W. Taggart. 2002. Standard Common and Current Scientific Names for North American Amphibians, Turtles, Reptiles, and Crocodilians, 5th Edition. Publication of The Center for North American Herpetology, Lawrence, Kansas. iv + 44 pp.
- Emmel, Thomas C. and John F. Emmel. 1973. The Butterflies of Southern California. Natural History Museum of Los Angeles County, Science Series 26: 1-148.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.
- Hickman, J.C., ed. 1993. The Jepson Manual: Higher Plants of California. Berkeley: University of California Press. 1400 pp.
- Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Nongame-Heritage Program, California Department of Fish & Game.
- Kollmorgen Instruments Corporation. 1994. Munsell Soil Color Charts, Revised Edition. Baltimore, MD.

- Oberbauer, T. 1996. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. San Diego Association of Governments, San Diego, California, 6 pp.
- Scott Franklin Consulting. 2004. Wildfire Safety/Vegetation Management Master Plan. September 13.
- Soulé, Michael E., ed. 1986. Conservation Biology: The Science of Scarcity and Diversity. Chapter 11, Habitat Fragmentation in the Temperate Zone.
- Studt, J.F. 1991. Memorandum: Questions and Answers on 1987 Manual. U.S. Army Corps of Engineers. October 7.
- U.S. Fish and Wildlife Service (USFWS). 2002a. Quino Checkerspot Butterfly (*Euphydryas editha quino*) 2002 Survey Protocol Information. February.
- 2002b. Quino Checkerspot Butterfly 2002 Survey Recommendations. February 12.
1996. Branch of Habitat Assessment. National List of Plant Species that Occur in Wetlands. <http://www.nwi.fws.gov/bha/> (in downloadable .pdf format).
1994. Endangered and threatened wildlife and plants; determination of endangered status for the arroyo southwestern toad. Federal Register 59 (241): 64859-64866.
- Wiedlin & Associates. 2006. Groundwater Resource Evaluation for Peaceful Valley Ranch. Unpublished report for San Diego County Department of Planning and Land Use.
- Williams, A.E. 1992. Memorandum: Clarification and Interpretation of the 1987 Manual. U.S. Army Corps of Engineers. March 6.

YEAR 2003 PROTOCOL
COASTAL CALIFORNIA GNATCATCHER SURVEY REPORT



8100 La Mesa Blvd., Suite 150

La Mesa, CA 91941-6476

e-mail: admin@helixepi.com

fax (619) 462-0552

phone (619) 462-1515

September 3, 2003

PRK-01

Mr. Daniel Marquez
U.S. Fish and Wildlife Service
6010 Hidden Valley Road
Carlsbad, California 92009

Subject: Year 2003 Protocol Gnatcatcher Survey Report for the Parker Property

Dear Mr. Marquez:

This letter presents the results of U.S. Fish and Wildlife Service (USFWS) protocol surveys for the coastal California gnatcatcher (*Polioptila californica californica*) for the Parker property. The 182-acre site is located in Jamul, San Diego County, California (Figure 1).

Surveys were performed to determine the presence or absence of gnatcatchers on the property. This letter describes the methods used to perform the surveys and the results. This report is being submitted to the USFWS as a condition of HELIX Environmental Planning Inc.'s Threatened and Endangered Species Permit TE778195, under which the surveys were performed by Deborah Leonard (formerly Pudoff).

INTRODUCTION

The Parker property is largely composed of agricultural fields with some developed land. A streambed and 10 vegetation communities also occur on site. Land uses on the site include active agriculture, horse facilities, a large vegetable garden, and two residences. Potential gnatcatcher habitat consists of approximately 30 acres of Diegan coastal sage scrub, some of which is disturbed (Figure 2).

METHODS

Three surveys were conducted according to the schedule in Table 1. Diegan coastal sage scrub and disturbed Diegan coastal sage scrub were surveyed. The surveys were conducted on foot (Figure 2) with the aid of binoculars, taped gnatcatcher vocalizations, a vegetation map, and an aerial photograph with a 1"=400' scale. The taped gnatcatcher vocalizations were played approximately every five minutes.



Table 1
GNATCATCHER SURVEY INFORMATION
FOR PARKER PROPERTY

Date of Survey	Biologist	Start/Stop Times	Acres (ac) Surveyed/ Coverage Rate	Start/Stop Weather Conditions
Survey 1				
July 17, 2003	Leonard*	0800/1000	30 ac/15 ac per hour	Overcast, 79°F, 0-2 mph/Overcast, 84°F, 0-2 mph
Survey 2				
July 24, 2003	Leonard	0830/1030	30 ac/15 ac per hour	Hazy sun, 73°F, 0-2 mph/Clear, 80°F, 2-4 mph
Survey 3				
August 1, 2003	Leonard	0745/0945	30 ac/15 ac per hour	Partly cloudy, 70°F, 0 mph/Partly cloudy, 75°F, 0-2 mph

*Formerly Pudoff

VEGETATION COMMUNITY DESCRIPTIONS

The Parker property supports a streambed and 10 vegetation communities, including Diegan coastal sage scrub, disturbed Diegan coastal sage scrub, coast live oak woodland, riparian woodland, mule fat scrub, native grassland, southern mixed chaparral, non-native grassland, eucalyptus woodland, and agriculture. In addition, the site contains disturbed and developed areas (Figure 2).

Streambed

One intermittent streambed traverses the site from north to south. It enters the site in its northwestern corner, flows off site to the west, and then back onto the site in its north-central portion. It exits the site in its south-central portion. This streambed is largely non-vegetated and very sandy.

Diegan Coastal Sage Scrub

Diegan coastal sage scrub on site is scattered throughout the site with little to no connectivity between patches. The northeastern corner of the property possesses the greatest quality and quantity of sage scrub present on site. This sage scrub is predominated by California buckwheat (*Erigeron fasciculatus*), San Diego sunflower (*Viguiera laciniata*), and California sagebrush (*Artemisia californica*). The



sage scrub in the south-central portion of the site is of moderate quality and is predominated by California sagebrush and spiny redberry (*Rhamnus crocea*). The remainder the sage scrub on site is of lower quality, and although it contains many of the typical sage scrub shrubs (i.e., California sagebrush and California buckwheat), the shrubs are more widely spaced, and often the openings are completely filled in with large mustard plants.

Disturbed Diegan Coastal Sage Scrub

Disturbed Diegan coastal sage scrub occurs in the western portion of the site in two areas, both of which are surrounded mostly by agriculture, non-native grasslands and/or disturbed habitat. Disturbed sage scrub on site is similar to coastal sage scrub except that it contains a high percentage (at least 50 percent) of non-native grasses and forbs such as, but not limited to, bromes (*Bromus* spp.) and filaree (*Erodium* sp.). This community is of low quality for gnatcatchers.

Coast Live Oak Woodland

Several patches of coast live oak woodland occur on site, primarily associated with the streambed and a small drainage. The dominant plant species in this community is coast live oak (*Quercus agrifolia*). The understory consists of species such as bedstraw (*Galium aparine*), Italian thistle (*Carduus pycnocephalus*), and ripgut grass (*Bromus diandrus*).

Riparian Woodland

Three areas on site contain riparian woodland. This vegetation community occurs in association with the streambed and contains species such as willow (*Salix* sp.), western sycamore (*Platanus racemosa*), and mule fat (*Baccharis salicifolia*).

Mule Fat Scrub

Mule fat scrub on site is limited to one area in the southeastern corner of the site. The dominant plant species in this community is mule fat. Associated species include shrubby willows and curly dock (*Rumex crispus*).

Native Grassland

The southeastern corner of the property contains two small patches of native grassland. The predominant species in this community is needle grass (*Nassella* sp.).



Southern Mixed Chaparral

Southern mixed chaparral occurs in the northeastern corner of the site. Characteristic species in this community include chamise (*Adenostoma fasciculatum*), laurel sumac (*Malosma laurina*), spiny redberry, and mission manzanita (*Xylococcus bicolor*).

Non-native Grassland

Non-native grassland on site consists of introduced annual grasses, sometimes associated with species of native origin. Characteristic non-native grasses on site include foxtail chess (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), and schismus (*Schismus barbatus*). Some native species present in the non-native grassland include goldfields (*Lasthenia californica*), doveweed (*Eremocarpus setigerus*), and southern sun cup (*Camissonia bistorta*).

Eucalyptus Woodland

Eucalyptus woodland on site is dominated by eucalyptus (*Eucalyptus* sp.) trees, an introduced genus that produces a large amount of leaf and bark litter. Eucalyptus woodland occurs adjacent to the streambed in the northwestern portion of the site and along the paved road in the western portion of the site.

Agriculture

The Parker property is largely an active agricultural site. Approximately 100 acres of active agriculture occur on site. The primary crop is oats (*Avena* sp.), but there is also a large vegetable garden in the central portion of the site.

Disturbed Habitat

Disturbed habitat on site includes land that has been cleared of vegetation or contains a preponderance of non-native plant species such as but not limited to mustard (*Brassica* sp.), yellow-star thistle (*Centaurea melitensis*), and wild radish (*Raphanus sativus*). Disturbed habitat primarily occurs along dirt roads, man-made berms, and the edges of developed land and agriculture.

Developed

Developed land is where permanent structures and/or pavement have been placed, preventing the growth of vegetation. Developed land on site includes a paved road, two residences, horse facilities, and produce packing facilities.



Letter to Mr. Daniel Marquez
September 3, 2003

Page 5 of 5

SURVEY RESULTS

The coastal California gnatcatcher was not observed on site. Please contact me if you have any questions about the surveys or the contents of this letter.

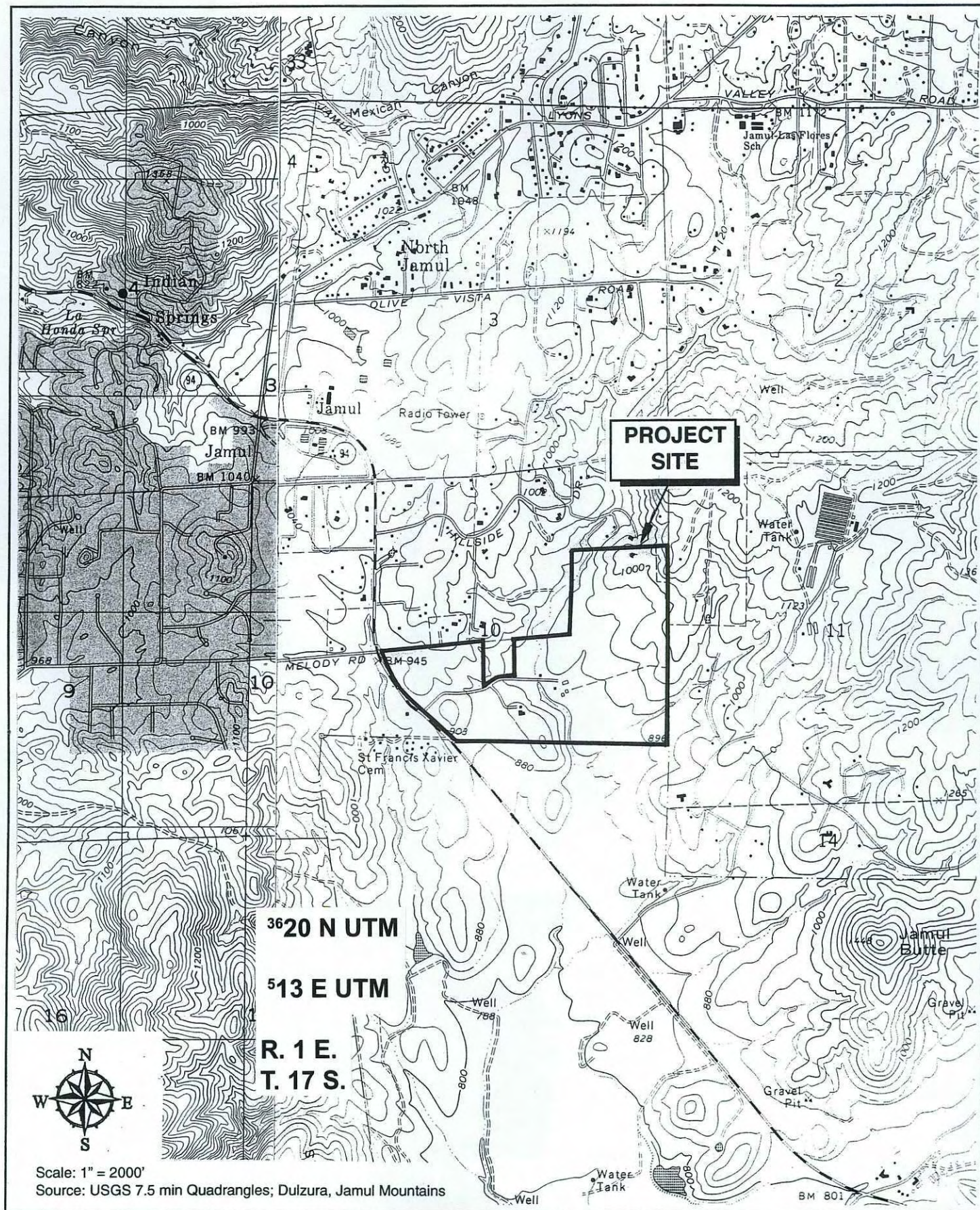
Sincerely,

A handwritten signature in cursive script, appearing to read "Deborah Leonard".

Handwritten initials "DL" in a cursive script.

Deborah Leonard (formerly Pudoff)
Biologist

Enclosures: Figure 1 Project Vicinity Map
Figure 2 Vegetation and Gnatcatcher Survey Route



Project Vicinity Map
 PARKER PROPERTY - JAMUL, CA
 Figure 1



Vegetation and Gnatcatcher Survey Route

PARKER PROPERTY JAMUL, CA

APPENDIX B

YEARS 2003 AND 2005 PROTOCOL
QUINO CHECKERSPOT BUTTERFLY SURVEY REPORTS

YEAR 2003 QCB REPORT

2003 Report
U.S. Fish and Wildlife Service Protocol Level
Presence/Absence Surveys for the
Quino Checkerspot Butterfly
(*Euphydryas editha quino*)

Prepared for:

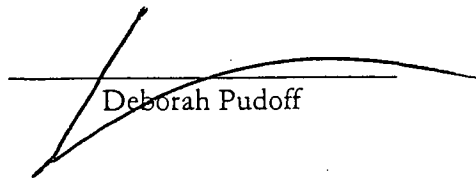
Parker Property, Jamul, San Diego County, California
Streeter Parker

Prepared by:

HELIX Environmental Planning, Inc.
8100 La Mesa Blvd., Suite 150
La Mesa, California 91941-6476
(Threatened/Endangered Species Permit: TE778195)

May 29, 2003

Surveys performed by:



Deborah Pudoff

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
METHODS.....	1
RESULTS	1
REFERENCES CITED	2

LIST OF APPENDICES

<u>Letter</u>	<u>Title</u>
A	Summary of Field Survey Conditions and Results
B	Copies of Field Notes
C	Lists of Butterflies Observed During Each Survey

LIST OF FIGURES

<u>Number</u>	<u>Title</u>	<u>Follows Page</u>
1	Site Assessment and Host Plant Location Map	1
2	Aerial Photograph	1

INTRODUCTION

This report documents the results of HELIX Environmental Planning, Inc.'s (HELIX's) quino checkerspot butterfly (QCB; *Euphydryas editha quino*) surveys on the Parker property. The surveys were performed under HELIX's Threatened/Endangered species permit (TE778195). The Parker property encompasses approximately 182 acres in Jamul, San Diego County, California. Land uses on the site include active agriculture, horse facilities, and two residences.

METHODS

U.S. Fish and Wildlife Service (USFWS) protocol QCB presence/absence surveys (10 surveys total) were conducted on site in accordance with the Year 2002 Survey Protocol Information (USFWS 2002a) and Survey Recommendations for the QCB (USFWS 2002b). Prior to the surveys, a habitat assessment was conducted on February 5, 2003. The biologist who conducted the habitat assessment and surveys was Deborah Pudoff. Dates, times, and weather conditions for the beginning and ending of each survey are presented in Appendix A. Copies of field notes from each survey are provided in Appendix B. Appendix C provides lists of the butterflies observed during each survey. Approximately 75 acres of potential QCB habitat (Diegan coastal sage scrub, southern mixed chaparral, and non-native grassland) were surveyed.

RESULTS

The Parker property consists largely of active agriculture with some developed land. Potential habitat for the QCB that was surveyed consisted of approximately 75 acres of Diegan coastal sage scrub, southern mixed chaparral, and non-native grassland (Figures 1 and 2). Other vegetation communities that occur on site include coast live oak woodland, riparian woodland, and eucalyptus woodland.

Dwarf plantain (*Plantago erecta*) and purple owl's clover (*Castilleja exserta*) were present on site but only occurred in small, sparse patches (Figure 1). The following primary nectar resources were also observed on site, the latter three in large numbers: ground pink (*Linanthus dianthiflorus*), cryptantha (*Cryptantha* sp.), goldfields (*Lasthenia* sp.), and fiddleneck (*Amsinckia* sp.).

Overall, the number of butterfly species and individuals was lower than expected. The most commonly occurring butterfly species were the common white (*Pontia protodice*), sara orangetip (*Anthocharis sara*), ladies (*Vanessa* spp.), and Behr's metalmark (*Apodemia mormo virgulti*; Appendix C). The QCB was not observed during any of the surveys conducted on the Parker property.

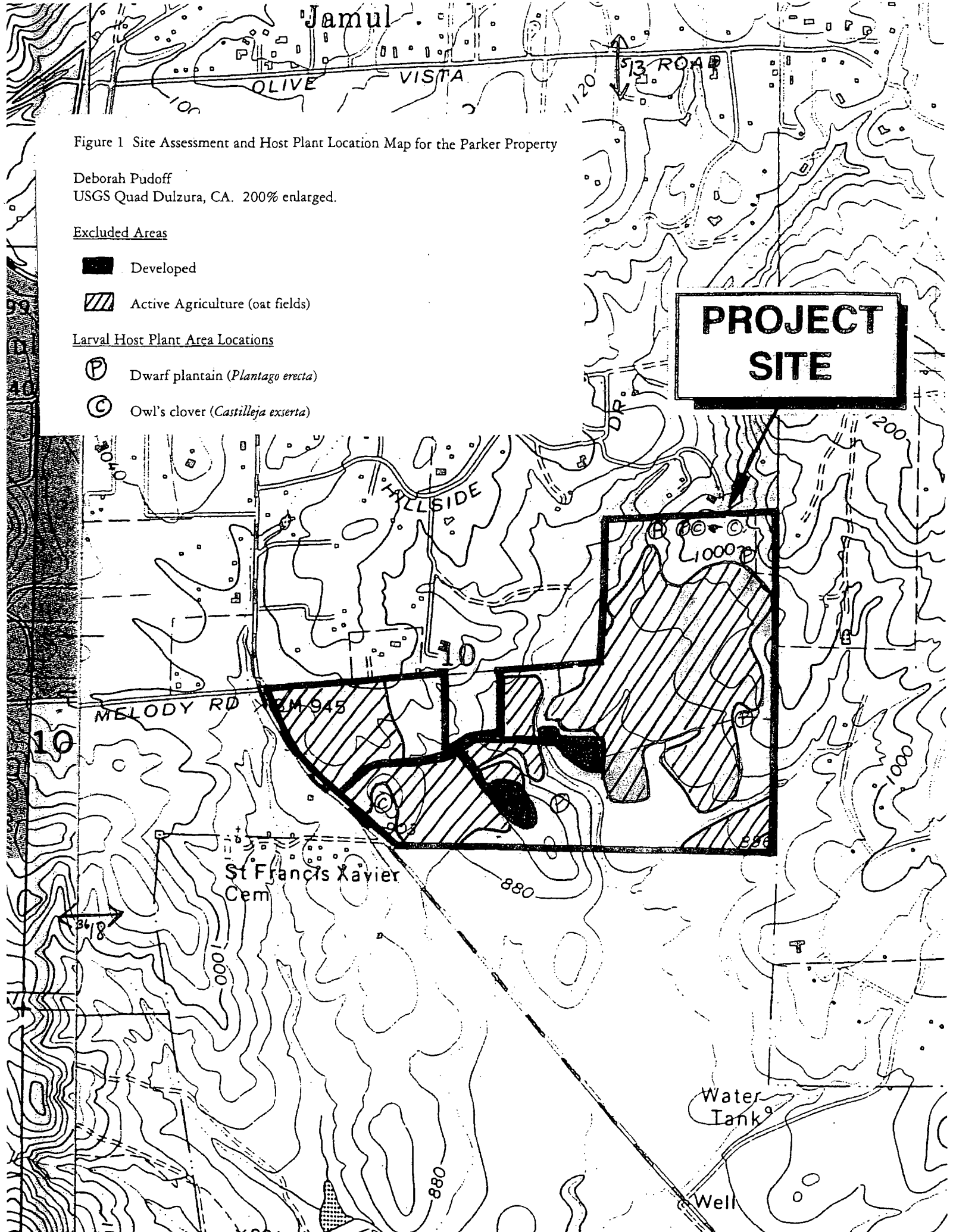


Figure 1 Site Assessment and Host Plant Location Map for the Parker Property

Deborah Pudoff
USGS Quad Dulzura, CA. 200% enlarged.

Excluded Areas

- Developed
- ▨ Active Agriculture (oat fields)

Larval Host Plant Area Locations

- Ⓐ Dwarf plantain (*Plantago erecta*)
- Ⓒ Owl's clover (*Castilleja exserta*)



Job No: PRK-01 Date: 9/3/02

REFERENCES CITED

U.S. Fish and Wildlife Service (USFWS). 2002a. Quino Checkerspot Butterfly (*Euphydryas editha quino*) 2002 Survey Protocol Information. February.

2002b. Quino Checkerspot Butterfly 2002 Survey Recommendations. February 12.

Appendix A
SUMMARY OF FIELD SURVEY CONDITIONS AND RESULTS

SUMMARY OF FIELD SURVEY CONDITIONS AND RESULTS

Site Visit #	Date of Survey	Survey Time (24 hr; start/end)	Weather Conditions (start/end) ¹	Results
1	February 18, 2003	1000/1500	Hazy sun, 69°F, wind 0-2 mph/hazy sun, 74°F, wind 0-2 mph	<i>Plantago erecta</i> present. Nectar resources present. No QCB.
2	February 21, 2003	0900/1400	Clear, 64°F, wind 0 mph/clear, 76°F, wind 2-4 mph	No QCB.
3	March 2, 2003	0930/1430	Clear, 60°F, wind 0-2 mph/clear, 65°F, wind 2-5 mph	No QCB.
4	March 7, 2003	0930/1430	Clear, 61°F, wind 0-2 mph/clear, 70°F, wind 0-2 mph	No QCB.
5	March 14, 2003	1100/1600	Hazy sun, 71°F, wind 0-2 mph/clear, 74°F, wind 0-2 mph	<i>Castilleja exserta</i> present. Wildflowers abundant. No QCB.
6	March 18, 2003	0930/1130	Clear, 72°F, wind 0-2 mph/clear, 73°F, wind 0-2 mph	Patches of <i>Amsinckia</i> weed whacked near residence for fire control. No QCB.
	March 19, 2003	0930/1230	Clear, 62°F, wind 0 mph/clear, 69°F, wind 0-7 mph	
7	March 25, 2003	0915/1415	Clear, 71°F, wind 0-2 mph/clear, 83°F, wind 0-3 mph	No QCB.
8	April 1, 2003	0900/1400	Clear, 72°F, wind 0-2 mph/clear, 76°F, wind 0-5 mph	No QCB.
9	April 7, 2003	0930/1430	Clear, 68°F, wind 0-1 mph/clear, 79°F, wind 3-8 mph	No QCB.
10	April 25, 2003 ²	0815/1000	Clear, 61°F, wind 0-3 mph/clear, 62°F, wind 0-3 mph	No QCB.

¹Temperature was taken on the ground in the shade.

²Only areas with the highest potential for QCB were surveyed on this date.

Appendix B
COPIES OF FIELD NOTES

RDO/1500

PRK-01

0187#1

Opnigh/Lane

2118103

Very sun but overcast-1

Rad. ff

69°F / 74°F

In bloom

ANRW LRP

HOLA GRM

CATH WCSO

SRO SAPH

Amur END

MDDO

CORP

WENTE

HOR

SCOT

PSMA pair

CHON

WTTT

CARD

RMA pair

BTT

Cam-S, O

Sperm-H

Syl-O

BGM-O

Tham-m

Heavy
young
part 13
1/2

Esch

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Artichoke

Cyntrille

Brassica

Mirabilis

Vignona

Phelectrantha

Chamaecypar

Gutierrezia

Antennaria

Erodium

Redmonds

Cordia

Sara H

Red adm 1

Communt H

PL H

Bernall

Blue sp 1

Alta

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

Raphanus

0900 / 1400

Clear / Clear

Wind 12 mph

47 FUG 151 76 F005

PRK-01

QUB #2

212153

Purditt

Thom-m

Cay-TIS

Spr-m-O,H

Net-N

Syl-S,O

Hoff WGP

MOO CAR

CAD BOWL

GRER YLWA

Amur East

CORA NAWO

RSHA ACNO

WJT BOPH

SCOA ANKE pair

ANWA NUR

WEMIS

LEOR

CHAM

SEPO

GATH

HOLA

BON

TV

Comm w/THHII

PL THHII

(Sara III)

John I

Bern II

House prints through
Pe area / area w/ highest
potential for OLB

Wta

Scal

Leskhem

0730/1430

PRK-01

Clear Clear

~~0730/1430~~ 05#3

60°F 60% 65°F 60%

3/2/03

0-2 mph 12-8 mph

Rediff

BICPH SCOA

TRF CASH

MO DO

WCSO

PL1

ANKS

Comm w/ HX II

Amck

Sara I

SOSP

Blauy 1

SCOA

Bum I

COCA

GLAR

Syl-0

Flame

Mon-m

BH

Spwm-4

RAA

RAA

WIT

CRAD

More hawk trace
then best potential
habitat

Acw's

Nomo

LPB

WEME

0930/1430

PRR-01

Clear / Same

QCB #4

0.25 am

3/7/03

61 FOGS / 70 FOGV

Pudoff

HOFI TV

CARD

Comm at ~~XX~~ TV

GRRR

Sara //

CATH

Bernie III

RTMA

Liger SW

CORA

mind 1

AMAR

WTIT

Kingbird CAM

HOLA

Uta

KIDE

Seal off

BTT

BEM

BTOP

LEBF

Neo F N

AMKE

Spam - D, A

WCB

Syl - S

PSMA

Thom - m

Swallow sp!

Larkema

1100/1500

PRR-01

Humid (clear) / Clear

3/14/03

02 mph / 022

05875

71°F dew / 74°F fog

Pudloff

CORA CATH

THH IIII

ROSA SASS

THH THH

GOIL CORA

Common THH THH

HORN

Sara THH THH

GRACE

Born THH THH

ANEM

PL THH THH

CATO

NOMA

WON

ALOW

WESP

BTA

CLOW

Sparrow - H

HORN

Wildflowers may beat fish, 102 or
many as I week ago. mynd, Laskom
Camissonia, Cryptantha, V. julia abundant.
Ground pink, etc present, Ce, too

0930/1230

Chum/Chum

0 mph/0-7 mph

02°F 06W/09°F 06W

0930/1230

Chum/Chum

0 mph/0-7 mph

02°F 06W/09°F 06W

PKC-JI

083#6 part 2

3/19/03

Pudloff

RTTA

COMA

EWS

HOF

LEOF

HOWL

ANUR

BOTH

MURDO

CARD

WCAP

LEOP

COMA

ANUR

SOSP

SPO

HOF

CARD

ANUR

WTT

CLAN

BTO

BEAR

CATH

Common w/

Sawa

PL1

Bone II

Fund I

Sperm-D

WTA

Long patch of ground with
hairs but can't identify

09/15/14/15
Clear/Cloud
0-2 mph 10-3 mph
71°F (65°F) 83°F (64°F)

PRK-01
8US #7
3/25/03
Pud. ff

MUDO NUNVO	Blue sp II
Amik B KMA	Red ad m1
BTS CSW	PL
HOF SPD	Comm w1
LEEF Howe	Sara
WCSP	Sulfur I
Bowl	Fund III
CORA	WCL
HOLA	Bushy I
RSHA	Bum
NOMA	Tiger SWI
CARA	Graptu Spang
WTT	N. amw OTW
CATD	Uta
ANM	Sperm - H, O
GRER	Syl - T, S
CATL	BTOR - S
SCIA	Cay - S
COMA	

0700/1400

Clear Clear

0-2 mph / 0-5 mph

72F / 76F / 65F

PRK-51

CB#8

4/1/03

Rad. ff

~~APR~~ CATH

NUNO WTH

WCSP ANTH

CATO SPTO

LEEF SCOT

CACI CASH

CASH RTHA

NUNO BEUR

~~ACORA~~

WELC

TV

BT

LABF

MODD

MXE

HOLA

Comm WAX#1/11/12

Sarat#11/11/11

Lady Sp#11/11/11

PL II

Bum#11/11/11

Sperm-O

Syl-S

Armadillo tank on hill

by house no weed whacked

High patch of grass in house

Also whacked along small

power lines

Ugaria multi

Gr. spiny

OTW

Uta

W. fence

0930 / 1430

Clean / Clear

0-1 mph / 3-8 mph

68°F / 70°F

6.5

PRIC-01

QUR#9

4/7/03

Pud. H

CLSW

HOT

WDT

~~BEAR~~ BEAR

NW0

WESP

MODD

CORA

HORA

SOSO

CAT

CATH

GRAR

CORA

SCDA

CORA

RJAA

WDMR

BIA

III III

III III III III

Chromat III III III

Sara III III III III III III

Ledge III III III III

PLH

WCE III II

Bene III II

Thomson

Sperm-H

JY-S

Krat - dust bath, tail drag

Cay-S, T

UHR

~~085~~ 085/1000

PRK 01

0.3 mph / 0.3 mph

4/25/03

Clear / Clear

Pud. f. f. 003#

61°F / 62°F 0615

Just checked hill
w/ highest OCB
potential

LEOF

HWA

COW

WTT

MOPO

Comm WT ### ## ## //

AcWo

Sara ## //

RWA

PL ##

SOSP

Lady Sp. ## ## ## //

Cato

Hon

COW#

Appendix C
LISTS OF BUTTERFLIES OBSERVED DURING EACH SURVEY

Butterflies Observed (larvae or adults)	Number	Comments
Pale Swallowtail (<i>Papilio eurymedon</i>)		
Unise Swallowtail (<i>P. zelicaon</i>)		
Vest Tiger Swallowtail (<i>P. rutulus</i>)		
Sara Orangeop (<i>Anthocharis sara</i>)	3	
Felder's Orangeip (<i>A. celibura</i>)		
Cabbage White (<i>Artogcia rapae</i>)		
Sleepy Orange (<i>Eurema nicippe</i>)		
Common White (<i>Ponila protodice</i>)	5	
California Dogface (<i>Zerene eurydice</i>)		
Alfalfa Butterfly (<i>Collas eurytheme</i>)		
Harford's Sulfur (<i>C. harfordi</i>)		
California Ringlet (<i>Coenonympha californica</i>)		
Monarch (<i>Danaus pterippus</i>)		
Queen (<i>D. gillippus</i>)		
Henne's Checkerspot (<i>Euphydryas chalcedona henneyi</i>)		
Calcedon Checkerspot (<i>E. chalcedona chalcedona</i>)		
Quino Checkerspot (<i>E. editha quino</i>)		
Gabb's Checkerspot (<i>Charidryas gabbii</i>)		
Leanira Checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylina Crescent (<i>Phyciodes mylitta</i>)		
Painted Lady (<i>Vanessa cardui</i>)	5	
West Coast Lady (<i>V. annabella</i>)		
Virginia Lady (<i>V. virginensis</i>)		
Red Admiral (<i>V. atalanta</i>)	1	
Buckeye (<i>Junonia coenia</i>)		
Mourning Cloak (<i>Nymphalis antiopa</i>)		
California Sister (<i>Adelpha bredowii californica</i>)		
Satyr Anglewing (<i>Polygonia satyrus</i>)		
Lerquin's Admiral (<i>Basilarchia lerquini</i>)		
Western Tailed Blue (<i>Everes myniola</i>)		
Southern Blue (<i>Glaucopsyche lygdamus australis</i>)		
Echo Blue (<i>Celastrina ladon echo</i>)		
Sonoran Blue (<i>Philoetes sonorensis</i>)		
Marine Blue (<i>Leptotes marina</i>)		
Acmon Blue (<i>Icaricia acmon</i>)		
Pygmy Blue (<i>Brephidium exilis</i>)		
Gray Hairstreak (<i>Strymon mellinus</i>)		
Brown Elfin (<i>Incisalia augustinus</i>)		
Perplexing Hairstreak (<i>Callophrys perplexa</i>)		
Grt Purple Hairstreak (<i>Atilides halesus</i>)		
Behr's Metalmark (<i>Apodemia morio virgulti</i>)	3	
Wright's Metalmark (<i>Calophelis wrightii</i>)		
Blue sp.	1	

Butterflies Observed (larvae or adults)

Parker #2 2/21/03

Butterflies Observed (larvae or adults)	Number	Comments
Pale Swallowtail (<i>Papilio eurymedon</i>)		
Anise Swallowtail (<i>P. zelicaon</i>)		
Vest Tiger Swallowtail (<i>P. rutulus</i>)		
Sara Orangeoep (<i>Anthocharis sara</i>)	4	
Felder's Orangeoep (<i>A. cethura</i>)		
Cabbage White (<i>Artogeia rapae</i>)		
Sleepy Orange (<i>Eurema nicippe</i>)		
Common White (<i>Pontia protodice</i>)	9	
California Dogface (<i>Zerene eurydice</i>)		
Alfalfa Butterfly (<i>Collas eurytheme</i>)		
Harford's Sulfur (<i>C. harfordi</i>)		
California Ringlet (<i>Coenonympha californica</i>)		
Monarch (<i>Danaus plexippus</i>)		
Queen (<i>D. gillippus</i>)		
Henne's Checkerspot (<i>Euphydryas chalcedona hennei</i>)		
Calcedon Checkerspot (<i>E. chalcedona chalcedona</i>)		
Quino Checkerspot (<i>E. editha quino</i>)		
Gabb's Checkerspot (<i>Charidryas gabbii</i>)		
Leanira Checkerspot (<i>Thessalia leanira wrighu</i>)		
Myliina Crescent (<i>Phyciodes myliina</i>)		
Painted Lady (<i>Vannessa cardui</i>)	7	
West Coast Lady (<i>V. annabella</i>)		
Virginia Lady (<i>V. virginensis</i>)		
Red Admiral (<i>V. atalanta</i>)		
Buckeye (<i>Junonia coenia</i>)		
Mourning Cloak (<i>Nymphalis antiopa</i>)		
California Sister (<i>Adelpha bredowii californica</i>)		
Sage Anglewing (<i>Polygonia samus</i>)		
Lorquin's Admiral (<i>Basilarchia lorquini</i>)		
Western Tailed Blue (<i>Evers amyntula</i>)		
Southern Blue (<i>Glaucopsyche lygdamus australis</i>)	1	
Echo Blue (<i>Celasarina iadon echo</i>)		
Sonoran Blue (<i>Philotes sonorensis</i>)		
Marine Blue (<i>Leptotes marina</i>)		
Aemon Blue (<i>Icaricia aemon</i>)		
Pygmy Blue (<i>Brephidium exilis</i>)		
Gray Hairstreak (<i>Styrmon melinus</i>)		
Brown Elfin (<i>Inisalia augustinus</i>)		
Perplexing Hairstreak (<i>Callophrys perplexa</i>)		
Gr Purple Hairstreak (<i>Adides halesus</i>)		
Behr's Metalmark (<i>Apodemia mormo virgulti</i>)	3	
Wright's Metalmark (<i>Calephelis wrightii</i>)		

Butterflies Observed (larvae or adults)	Number	Comments
Pale Swallowtail (<i>Papilio eurymedon</i>)		
Anise Swallowtail (<i>P. zelicaon</i>)		
West Tiger Swallowtail (<i>P. rutulus</i>)		
Sara Orange tip (<i>Anthocharis sara</i>)	1	
Felder's Orange tip (<i>A. cethura</i>)		
Cabbage White (<i>Arctocia rapae</i>)		
Sleepy Orange (<i>Eurema nicippe</i>)		
Common White (<i>Pontia protodice</i>)	7	
California Dogface (<i>Zerene eurydice</i>)		
Alfalfa Butterfly (<i>Collas eurytheme</i>)		
Harford's Sulfur (<i>C. harfordi</i>)		
California Ringlet (<i>Coenonympha californica</i>)		
Monarch (<i>Danaus plexippus</i>)		
Queen (<i>D. gilippus</i>)		
Henne's Checkerspot (<i>Euphydryas chalcedona henneyi</i>)		
Calcedon Checkerspot (<i>E. chalcedona chalcedona</i>)		
Quino Checkerspot (<i>E. editha quino</i>)		
Gabb's Checkerspot (<i>Charidryas gabbii</i>)		
Leanira Checkerspot (<i>Thessalia leanira wrighu</i>)		
Myliata Crescent (<i>Phycodes myliata</i>)		
Painted Lady (<i>Vanessa cardui</i>)	1	
West Coast Lady (<i>V. annabella</i>)		
Virginia Lady (<i>V. virginensis</i>)		
Red Admiral (<i>V. atalanta</i>)		
Buckeye (<i>Junonia coenia</i>)		
Mourning Cloak (<i>Nymphalis antiopa</i>)		
California Sister (<i>Adelpha bredowii californica</i>)		
Sage Anglewing (<i>Polygonia satyrus</i>)		
Lorquin's Admiral (<i>Basilarchia lorquini</i>)		
Western Tailed Blue (<i>Evetes amynula</i>)		
Southern Blue (<i>Glaucopsyche lygdamus australis</i>)		
Echo Blue (<i>Celasarina ladon echo</i>)		
Sonoran Blue (<i>Philois sonorensis</i>)		
Marine Blue (<i>Leptotes marina</i>)		
Aemon Blue (<i>Icaricia aemon</i>)		
Pygmy Blue (<i>Brephidium exilis</i>)		
Gray Hairstreak (<i>Styrnnon mellinus</i>)		
Brown Elfin (<i>Incisalia augustinus</i>)		
Perplexing Hairstreak (<i>Callophrys perplexa</i>)		
Grn Purple Hairstreak (<i>Atilides halesus</i>)		
Behr's Metalmark (<i>Apodemia morio virgulti</i>)	1	
Wright's Metalmark (<i>Calophelis wrightii</i>)		
Blue sp	1	

Butterflies Observed (larvae or adults)	Number	Comments
White Swallowtail (<i>Papilio eurymedon</i>)		
Unise Swallowtail (<i>P. zelicaon</i>)		
Vest Tiger Swallowtail (<i>P. rutulus</i>)	1	
Sara Orangeop (<i>Anthocharis sara</i>)	3	
Felder's Orangeop (<i>A. celthura</i>)		
Cabbage White (<i>Artogeia rapae</i>)		
Sleepy Orange (<i>Eurema nicippe</i>)		
Common White (<i>Pontia protodice</i>)	8	
California Dogface (<i>Zerene eurydice</i>)		
Alfalfa Butterfly (<i>Colias eurytheme</i>)		
Harford's Sulfur (<i>C. harfordi</i>)		
California Ringlet (<i>Coenonympha californica</i>)		
Monarch (<i>Danaus plexippus</i>)		
Queen (<i>D. gillippus</i>)		
Henne's Checkerspot (<i>Euphydryas chalcedona henneyi</i>)		
Calcedon Checkerspot (<i>E. chalcedona chalcedona</i>)		
Quino Checkerspot (<i>E. editha quino</i>)		
Gabb's Checkerspot (<i>Charidryas gabbii</i>)		
Leanira Checkerspot (<i>Thessalia leanira wrighu</i>)		
Mylina Crescent (<i>Phycodes mylitta</i>)		
Painted Lady (<i>Vanessa cardui</i>)		
West Coast Lady (<i>V. annabella</i>)		
Virginia Lady (<i>V. virginensis</i>)		
Red Admiral (<i>V. atalanta</i>)		
Buckeye (<i>Junonia coenia</i>)		
Mourning Cloak (<i>Nymphalis antiopa</i>)		
California Sister (<i>Adelpha bredowii californica</i>)		
Satyr Anglewing (<i>Polygonia satyrus</i>)		
Lorquin's Admiral (<i>Basilarchia lorquini</i>)		
Western Tailed Blue (<i>Evetes amynula</i>)		
Southern Blue (<i>Glaucopsyche lygdamus australis</i>)		
Echo Blue (<i>Celastrina ladon echo</i>)		
Sonoran Blue (<i>Philoetes sonorensis</i>)		
Marine Blue (<i>Leptotes marina</i>)		
Acmon Blue (<i>Icaricia acmon</i>)		
Pygmy Blue (<i>Brephidium exilis</i>)		
Gray Hairstreak (<i>Stygnon melinus</i>)		
Brown Elfin (<i>Incisalia augustinus</i>)		
Perplexing Hairstreak (<i>Callophrys perplexa</i>)		
Grn Purple Hairstreak (<i>Ailides halesus</i>)		
Behr's Metalmark (<i>Apodemia morio virgata</i>)	4	
Wright's Metalmark (<i>Calephelis wrightii</i>)		
Funeral Darterwing	1	

Butterflies Observed (larvae or adults)

Wardner #5 3/14/13

Number

Comments

Pale Swallowtail (*Papilio eurymedon*)Anise Swallowtail (*P. zelicaon*)West Tiger Swallowtail (*P. rutulus*)Isra Orangeoep (*Anthocharis sara*)Felder's Orangetip (*A. cethura*)Cabbage White (*Arctopsia rapae*)Sleepy Orange (*Eurema nicippe*)Common White (*Pontia protodice*)California Dogface (*Zerene eurydice*)Alfalfa Butterfly (*Colias eurytheme*)Harford's Sulfur (*C. harfordi*)California Ringlet (*Coenonympha californica*)Monarch (*Danaus plexippus*)Queen (*D. gilippus*)Henne's Checkerspot (*Euphydryas chalcedona hennei*)Calcedon Checkerspot (*E. chalcedona chalcedona*)Quino Checkerspot (*E. editha quino*)Gabb's Checkerspot (*Charidryas gabbii*)Leandra Checkerspot (*Thessalia leandra wrighii*)Mylitta Crescent (*Phycodes mylitta*)Painted Lady (*Vanessa cardui*)West Coast Lady (*V. annabella*)Virginia Lady (*V. virginensis*)Red Admiral (*V. atalanta*)Buckeye (*Junonia coenia*)Mourning Cloak (*Nymphalis antiopa*)California Sister (*Adolpha bredowii californica*)Satyr Anglewing (*Polygonia satyrus*)Lorquin's Admiral (*Basilarchia lorquini*)Western Tailed Blue (*Evers amynula*)Southern Blue (*Glaucopsyche lygdamus australis*)Echo Blue (*Celasirina ladon echo*)Sonoran Blue (*Philotes sonorensis*)Marine Blue (*Leptotes marina*)Acmon Blue (*Icaricia acmon*)Pygmy Blue (*Brephidium exilis*)Gray Hairstreak (*Strymon melinus*)Brown Elfin (*Incisalia augustinus*)Perplexing Hairstreak (*Callophrys perplexa*)Gn Purple Hairstreak (*Adides halesus*)Behr's Metalmark (*Apodemia morio virgulin*)Wright's Metalmark (*Calophelis wrightii*)

12

39

7

9

Pale Swallowtail (*Papilio eurymedon*)Unise Swallowtail (*P. zelicaon*)Vest Tiger Swallowtail (*P. rutulus*)Sara Orangeop (*Anthocharis sara*)Felder's Orangetip (*A. cethura*)Cabbage White (*Artogcia rapae*)Sleepy Orange (*Eurema nicippe*)Common White (*Pontia protodice*)California Dogface (*Zerene eurydice*)Alfalfa Butterfly (*Colias eurytheme*)Harford's Sulfur (*C. harfordi*)California Ringlet (*Coenonympha californica*)Monarch (*Danaus plexippus*)Queen (*D. gillippus*)Henne's Checkerspot (*Euphydryas chalcedona hennei*)Calcedon Checkerspot (*E. chalcedona chalcedona*)Quino Checkerspot (*E. editha quino*)Gabb's Checkerspot (*Charidryas gabbi*)Leanira Checkerspot (*Thessalia leanira wrighti*)Mylina Crescent (*Phyciodes mylitta*)Painted Lady (*Vanessa cardui*)West Coast Lady (*V. annabella*)Virginia Lady (*V. virginensis*)Red Admiral (*V. atalanta*)Buckeye (*Junonia coenia*)Mourning Cloak (*Nymphalis antiopa*)California Sister (*Adelpha bredowii californica*)Satyr Anglewing (*Polygonia satyrus*)Lorquin's Admiral (*Basilarchia lorquini*)Western Tailed Blue (*Evers amyntula*)Southern Blue (*Glaucopsyche lygdamus australis*)Echo Blue (*Celasarina iadon echo*)Sonoran Blue (*Philoetes sonorensis*)Marine Blue (*Leptotes marina*)Acmon Blue (*Icaricia acmon*)Pygmy Blue (*Brephidium exilis*)Gray Hairstreak (*Stenyon mellinus*)Brown Elfin (*Incisalia augustinus*)Perplexing Hairstreak (*Callophrys perplexa*)Orn Purple Hairstreak (*Adides halesus*)Behr's Metalmark (*Apodemia morio virgulti*)Wright's Metalmark (*Calephelis wrightii*)

Funeral duskywing

1

Butterflies Observed (larvae or adults)	Number	Comments
Pale Swallowtail (<i>Papilio eurymedon</i>)		
Anise Swallowtail (<i>P. zelicaon</i>)		
West Tiger Swallowtail (<i>P. rutulus</i>)		
Sara Orange-tip (<i>Anthocharis sara</i>)	38	
Felder's Orange-tip (<i>A. cethura</i>)		
Cabbage White (<i>Artogeia rapae</i>)		
Sleepy Orange (<i>Eurema nicippe</i>)		
Common White (<i>Pontia protodice</i>)	41	
California Dogface (<i>Zerene eurydice</i>)		
Alfalfa Butterfly (<i>Collias eurytheme</i>)		
Harford's Sulfur (<i>C. harfordi</i>)		
California Ringlet (<i>Coenonympha californica</i>)		
Monarch (<i>Danaus plexippus</i>)		
Queen (<i>D. gillippus</i>)		
Henne's Checkerspot (<i>Euphydryas chalcedona hennel</i>)		
Calcedon Checkerspot (<i>E. chalcedona chalcedona</i>)		
Quino Checkerspot (<i>E. editha quino</i>)		
Gabb's Checkerspot (<i>Charidryas gabbi</i>)		
Leandra Checkerspot (<i>Thessalia leandra wrighti</i>)		
Mytila Crescent (<i>Phycodes mytila</i>)		
Painted Lady (<i>Vanessa cardui</i>)	2	
West Coast Lady (<i>V. annabella</i>)	7	
Virginia Lady (<i>V. virginensis</i>)		
Red Admiral (<i>V. atalanta</i>)		
Buckeye (<i>Junonia coenia</i>)		
Mourning Cloak (<i>Nymphalis antiopa</i>)		
California Sister (<i>Adelpha bredowii californica</i>)		
Satyr Anglewing (<i>Polygonia satyrus</i>)		
Lorquin's Admiral (<i>Basilarchia lorquini</i>)		
Western Tailed Blue (<i>Everes mynula</i>)		
Southern Blue (<i>Glaucopsyche lygdamus australis</i>)		
Echo Blue (<i>Celastrina ladon echo</i>)		
Sonoran Blue (<i>Philoetes sonorensis</i>)		
Marine Blue (<i>Leptotes marina</i>)		
Acmon Blue (<i>Icaricia acmon</i>)		
Pygmy Blue (<i>Brephidium exilis</i>)		
Gray Hairstreak (<i>Strymon melinus</i>)		
Brown Elfin (<i>Incisalia augustinus</i>)		
Perplexing Hairstreak (<i>Callophrys perplexa</i>)		
Gr. Purple Hairstreak (<i>Adides halesus</i>)		
Behr's Metalmark (<i>Apodemia morio virgata</i>)	7	
Wright's Metalmark (<i>Calephelis wrightii</i>)		
Lady sp	18	

Butterflies Observed (larvae or adults)	Number	Comments
Pale Swallowtail (<i>Papilio eurymedon</i>)		
Anise Swallowtail (<i>P. zelicaon</i>)		
Vest Tiger Swallowtail (<i>P. rutulus</i>)		
Sara Orangeop (<i>Anthocharis sara</i>)	7	
Felder's Orangeip (<i>A. celthura</i>)		
Cabbage White (<i>Arcticia rapae</i>)		
Sleepy Orange (<i>Eurema nicippe</i>)		
Common White (<i>Pontia protodice</i>)	17	
California Dogface (<i>Zerene eurydice</i>)		
Alfalfa Butterfly (<i>Colias eurytheme</i>)		
Harford's Sulfur (<i>C. harfordi</i>)		
California Ringlet (<i>Coenonympha californica</i>)		
Monarch (<i>Danaus plexippus</i>)		
Queen (<i>D. gilippus</i>)		
Henne's Checkerspot (<i>Euphydryas chalcedona hennei</i>)		
Calcedon Checkerspot (<i>E. chalcedona chalcedona</i>)		
Quino Checkerspot (<i>E. editha quino</i>)		
Gabb's Checkerspot (<i>Charidryas gabbii</i>)		
Leanira Checkerspot (<i>Thessalia leanira wrighti</i>)		
Myliina Crescent (<i>Phyciodes myliina</i>)		
Painted Lady (<i>Vannessa cardui</i>)	6	
West Coast Lady (<i>V. annabella</i>)		
Virginia Lady (<i>V. virginensis</i>)		
Red Admiral (<i>V. atalanta</i>)		
Buckeye (<i>Junonia coenia</i>)		
Mourning Cloak (<i>Nymphalis antiopa</i>)		
California Sister (<i>Adelpha bredowii californica</i>)		
Satyr Angleming (<i>Polygonia satyrus</i>)		
Lorquin's Admiral (<i>Basilarchia lorquini</i>)		
Western Tailed Blue (<i>Everes amyntula</i>)		
Southern Blue (<i>Glaucopsyche lygdamus australis</i>)		
Echo Blue (<i>Celasulina iadon echo</i>)		
Sonoran Blue (<i>Philotes sonorensis</i>)		
Marine Blue (<i>Leptotes marina</i>)		
Acmon Blue (<i>Icaricia acmon</i>)		
Pygmy Blue (<i>Brephidium exilis</i>)		
Gray Hairstreak (<i>Strymon melinus</i>)		
Brown Elfin (<i>Incisalia augustinus</i>)		
Perplexing Hairstreak (<i>Callophrys perplexa</i>)		
Grt Purple Hairstreak (<i>Atilides halesus</i>)		
Behr's Metalmark (<i>Apodemia morio virgata</i>)		
Wright's Metalmark (<i>Calophelis wrightii</i>)		
Lady sp.	17	

YEAR 2005 QCB REPORT

2005 Report
U.S. Fish and Wildlife Service Protocol Level
Presence/Absence Surveys for the
Quino Checkerspot Butterfly
(*Euphydryas editha quino*)

Prepared for:

Peaceful Valley Ranch, Jamul, San Diego County, California
Streeter Parker
(HELIX Job No. PRK-01)


Prepared by:


HELIX Environmental Planning, Inc.
8100 La Mesa Blvd., Suite 150
La Mesa, CA 91941-6476
(Threatened/Endangered Species Permit: TE778195)

May 21, 2005

We certify that the information in this survey report and attached exhibits fully and accurately represents our work:


Deborah Leonard


Brian Parker


Amy Mattson


Dale Ritenour

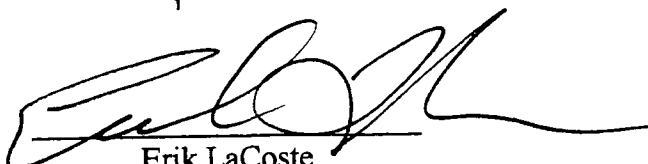

Erik LaCoste
(under Permit TE027736)

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	1
METHODS.....	1
RESULTS	1
REFERENCES CITED	3

LIST OF APPENDICES

<u>Letter</u>	<u>Title</u>
A	Summary of Field Survey Conditions and Results
B	Copies of Field Notes
C	Lists of Butterflies Observed

LIST OF FIGURES

<u>Number</u>	<u>Title</u>	<u>Follows Page</u>
1	Site Assessment and Host Plant Location Map	2
2	Aerial Photograph	2

INTRODUCTION

HELIX Environmental Planning, Inc. (HELIX) conducted presence/absence surveys for the federally listed endangered Quino checkerspot butterfly (QCB; *Euphydryas editha quino*) on the Peaceful Valley Ranch property. The 181.3-acre property is situated east of the intersection of Campo Road and Melody Lane in the Jamul community in unincorporated San Diego County, California. It lies within the southeastern portion of Section 10, Range 1 East, Township 17 South of the U.S. Geological Survey 7.5-minute Dulzura quadrangle.

The majority of the property is agricultural land supporting oats. Surrounding land uses include undeveloped open space to the south, rural residential and vacant lands to the east, undeveloped land and a fire station to the west, and large lot of residential land to the north.

METHODS

The site assessment and presence/absence surveys were conducted under HELIX's Threatened/Endangered species permit TE778195. A site assessment of the property was performed by HELIX biologist Deborah Leonard on February 5, 2003. The only areas that the USFWS recommends excluding from QCB surveys are active agricultural land, developed areas, closed-canopy riparian areas, and dense chaparral. The site assessment identified approximately 67.8 acres of vegetation as suitable butterfly survey areas, while 113.5 acres of developed ranch areas, agricultural fields, dense chaparral, and riparian habitat were excluded from the survey (Figure 1).

Surveys of all non-excluded areas were conducted in accordance with USFWS survey protocol (USFWS 2002a) and Survey Recommendations (USFWS 2002b) for the QCB. HELIX permitted biologists Deborah Leonard, Amy Mattson, Brian Parker, and Dale Ritenour, as well as subconsultant Erik LaCoste (Permit TE277364) made a total of 12 site visits between January 18 and April 14, 2005. HELIX biologists Heather Haney, Stacy Nigro, and Kathy Pettigrew, who are listed as supervised individuals under HELIX's permit, assisted on a number of the surveys (Attachment A). Copies of field notes from each survey are provided in Appendix B.

Nomenclature for this report is taken from Holland (1986) for vegetation communities and Hickman (1993) and Beauchamp (1986) for plants. Identification of butterflies was based on personal knowledge, museum specimens, and field guides by Glassberg (2001) and Garth and Tilden (1986).

RESULTS

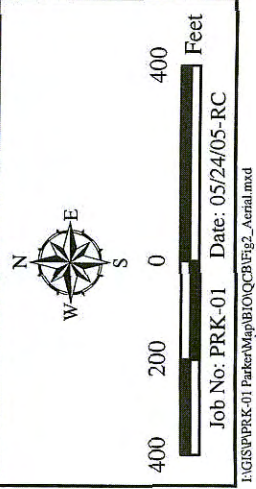
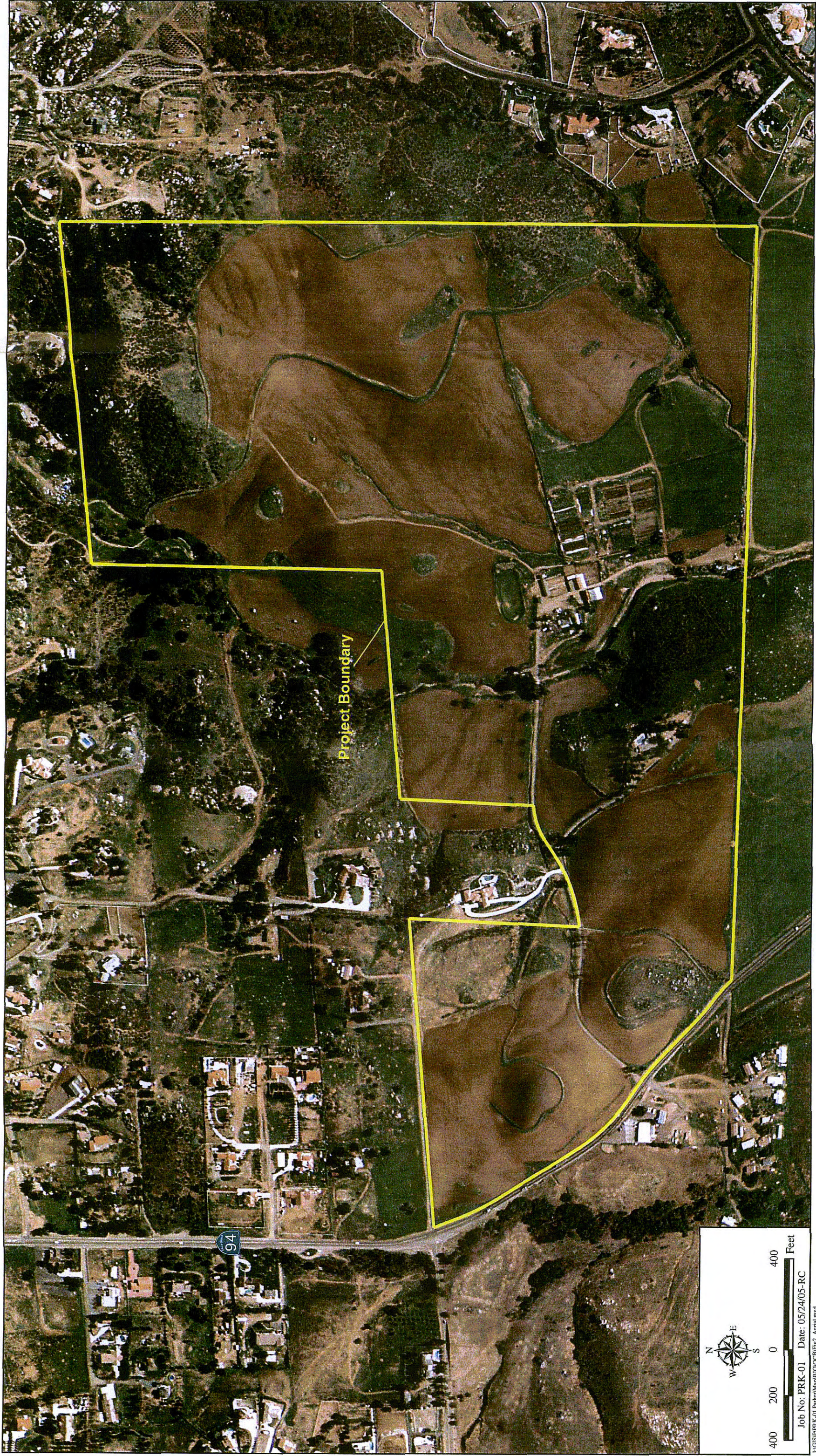
The property supports ten vegetation communities: coast live oak woodland, riparian woodland, Diegan coastal sage scrub (including disturbed), southern mixed chaparral, non-native grassland, non-native vegetation, eucalyptus woodland, agriculture, disturbed habitat, and developed land. Approximately 67.8 acres of potential QCB habitat occur on site, dominated largely by Diegan coastal sage scrub and non-native grassland (Figures 1 and 2).

Two potential QCB larval host plant species were observed during the focused surveys (Figure 1). Dwarf plantain (*Plantago erecta*) occurs on site in three patches of several hundred to several thousand

individuals. Purple owl's clover (*Castilleja exserta*) is distributed through Diegan coastal sage scrub in the northeastern portion of the site (Figure 1). Potential nectar plants, including goldfields (*Lasthenia californica*), popcorn flower (*Cryptantha* sp. and *Plagiobothrys* sp.), fiddleneck (*Amsinckia menziesii*), chia (*Salvia columbriacae*), ground pink (*Linanthus dianthiflorus*), coastal deerweed (*Lotus scoparius*), and California buckwheat (*Eriogonum fasciculatum*) are abundant on site. The open coastal sage scrub located in the northeastern portion of the site supports both host plant species and a large diversity of nectar plants, making it apparently ideal QCB habitat.

Surveyors made a total of over 5,800 butterfly observations representing at least 13 different species (Appendix C). Because the painted lady (*Vanessa cardui*) northerly migration was near its peak during the March 16 survey, the number of individuals on site during this site visit was so high that it could only be estimated. Although apparently suitable habitat supporting primary and secondary host plants as well as ample nectar plants occurs on site, no QCB were observed during the surveys.





Aerial Photograph
PEACEFUL VALLEY RANCH
Figure 2

REFERENCES CITED

- Beauchamp, R.M. 1986. A Flora of San Diego County, California. Sweetwater Press, National City, California, 241 pp.
- Garth, J. S. and J. W. Tilden. 1986. California Butterflies. University of California Press. Berkeley.
- Glassberg, Jeffrey. 2001. Butterflies Through Binoculars the West. Oxford University Press, Oxford.
- Hickman, J. C. (Ed.). 1993. The Jepson Manual, Higher Plants of California. University of California Press, Berkeley.
- Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. State of California. The Resources Agency.
- U.S. Fish and Wildlife Service (USFWS). 2002a. Quino Checkerspot Butterfly (*Euphydryas editha quino*) 2002 Survey Protocol Information. February.
- 2002b. Quino Checkerspot Butterfly 2002 Survey Recommendations. February 12.

Appendix A
SUMMARY OF FIELD SURVEY CONDITIONS AND RESULTS

Date	Biologist(s)	Survey Time (start/end)	Weather Conditions ¹	
			Start	End
Survey 1				
January 18, 2005	Brian Parker	1030/1530	72°F, 10% cc, 0-2 mph	77°F, 10% cc, 2-4 mph
Survey #2				
January 24, 2005	Amy Mattson, Brian Parker ²	1355/1530	76°F, 85% cc, 2-4 mph	70°F, 95% cc, 2-6 mph
January 25, 2005	Deborah Leonard	1230/1320	70°F, hazy sun, 3-5 mph	68°F, cloudy, 10 mph
January 28, 2005	Deborah Leonard	1000/1140	56°F, partly cloudy, 0-2 mph	65°F, mostly cloudy, 0-2 mph
Survey 3				
January 31, 2005	Deborah Leonard	0915/01415	64°F, clear, 0 mph	64°F, clear, 0-2 mph
Survey 4				
February 9, 2005	Deborah Leonard	0915/1415	60°F, clear, 0-2 mph	73°F, clear, 2-8 mph
Survey 5				
March 2, 2005	Brian Parker ³	1030/1120	62°F, 60% cc, 2-4 mph	63°F, 95% cc, 2-4 mph
March 3, 2005	Brian Parker	0930/1350	60°F, 60% cc, 1-3 mph	64°F, 50% cc, 2-4 mph
Survey 6				
March 9, 2005	Brian Parker, Dale Ritenour	1210/1530	73°F, 0% cc, 0 mph	68°F, 0% cc, 0-2 mph
Survey 7				
March 11, 2005	Brian Parker	1230/1550	73°F, 0% cc, 4-6 mph	69°F, 0%cc, 2-4 mph
March 12, 2005	Brian Parker	1145/1330	68°F, 15% cc, 1-3 mph	74°F, 0% cc, 4-6 mph
Survey 8				
March 16, 2005	Brian Parker	1000/1500	63°F, 10% cc, 2-4 mph	68°F, 0% cc, 2-4 mph
Survey 9				
March 21, 2005	Brian Parker ⁴	1020/1520	70°F, 35% cc, 1-4 mph	70°F, 10% cc, 4-8 mph
Survey 10				
March 31, 2005	Brian Parker ³	0900/1400	75°F, 0% cc, 8-10 mph	75°F, 0% cc, 3-8 mph
Survey 11				
April 9, 2005	Erik LaCoste	1115/1615	61°F, 30% cc, 3.6 mph	65°F, 25% cc, 5.1 mph
Survey 12				
April 14, 2005	Deborah Leonard	0900/1400	71°F, clear, 0-2 mph	78°F, clear, 3-5 mph
¹ Temperatures were taken on the ground in the shade; cloud cover (cc) is given as a percent, where available; wind speed was measured at 4 to 6 feet above ground level.				
² Accompanied by HELIX supervised individuals, Heather Haney and Kathy Pettigrew.				
³ Accompanied by HELIX supervised individual, Heather Haney.				
⁴ Accompanied by HELIX supervised individual, Stacy Nigro.				

Appendix B
COPIES OF FIELD NOTES

Parker #1

1-18-05

BP

1030 1530

72 77

0-2 2-4

10% 10%

White :

PL Δ 1:

Blue :

Ringlet :

H. incana

Linanthus

Cryptanthus

Plagiobothrys

Vig. lac

Mirab. cal

Camissonia

Lept. cal

Laphanus

Calandrinia ciliata

Eriog. fas

Parker QCB
BP, AM, KP, HH

1-24-85

1355	1535
8510	9576

2-6	2-6
-----	-----

76°	69°
-----	-----

Hirschfeldia

Mirabilis ca.

Ground Pink

Lepidium sp

Cryptantha

Good sp

Vig. luc.

Commissioner?

Lesquerella

Chamaesyce

Stars

Raph. Section

Red Mounds

claytonia

Amelanchier

Rebocarya

100m

100m

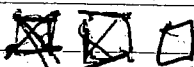
Surveyed

Ringlet

Common Wht.

Puffin B.

Paint L.



5/24/05 QCB

PRK-01 Parker (75 acres)

Amy M, Brian P,
Heather H, Kathy P

2.5 hrs

Start: 1:55 pm, 76°F, 2-4 mph, 85% cloud cover

4:25 pm

End: 3:35 pm, 74°F, 2-6 mph, 95%

~~2.5 hrs~~

(1:40 time) (70° @ 3:30 pm) (68° @ 3:40)

flowering

not flower

butterflies

Camissonia

Cen. mel

white,

Morablis

filago

Sara II

Cryptantha

Cen. sp.

lady,

Calandrinia

Mal. laur

painted (at 4:40)

Poranica

← Eriog. fasc.

Thacelia 10 purple

dodder

Aniselmia

sk purple

Yucca no shell

Phacelia

Galium

Chamaesyce

Rhamnus

Liriodendron

Vig. lac.

Mazahmacrocarp

Sal. api

Lepid. lat.

mushrooms

Cleistania (minor lettuce)

Grasshopper

peony

Artemise

Mimaur

Marr. vulg.

Heckella

lupine

Z. rootum

~~lupine~~

Chia

sheer

?

Gutier

Lot. cor.

red tail hawk

~~Hypericella~~ Retracarya

Hygarcia squarros

bunny poop, animal

Raphanus sat.

Sac. pil

dragonfly

?

Antirrhinum (not count)

Sambucus mex.

honey bee

wh

Stephanomeria

nettle

hummingbird woodrat (box)

~~Empo~~ orange daisy

Yucca

brushfire

quail

mole

bat

cut (G. Sporan)

1230/430
Hillysuy
3-5 high
700005

Lady sp II
Siva I
White sp I

1305
Cloudy
5-10 mph
700005

1320
Cloudy
Sustained 10 mph
680005

PRK-01
DLB West 1/2 (PAA)
1/25/05 #2
Leonard

Needs
reporting

Flowering plants

Calandrinia Phacelia p.
Cryptantha
Amsinckia Chamusca
Heterotheca Mueh
Rayhanus Lepidium
Camissonia Erodium
Clematis

Thom-M Coy-S
Sperm-H Syl-O

HOLA SOTA
ANNU AMRE
CORA WTKI
CATO
AMCR Hylea
HOFI

1000

0-2 mph

P477 11/23

56° to 65°

0 tip II
Landing sp II

1030

mostly cloudy

0-2 mph

60° F to 65°

1100

mostly cloudy

0-2

65° F

1140

Same as 1100

PER-01

01B #2 repeat

at 1/25 105

1128/05

Learned (or forgotten)

Sam - 0

Thun - m

Syl - S10

Amile BRBB

HUA SP50

HOFI CAXI

BLPH MODO

RMA NOHA

SAPH ~~COHA~~

Amile Accipiter sp.

COMA ACWO

WCSP KSHA

CAPO Anthe

NOMO

RHA

WE ME

09/15/1915
Chick/Chick
Dmg 10 mgph
1/1 FOWS/1/4 FOWS

PRK-01
OUB #3?
1/31/105
Leonard

WTH SPAN Spenn O
DANCE WAS Spenn O
WERNIS WAS Cey S, T
Amid WAS Thom Jn
PSHA BROW North n
PHER KATH (O) n
COCO NOUN
COCO NOUN
SCOTT SP
LEAF
DIT
ANNA
MOMO
NOPL
ACAO
CAKI
BEMZ
SPD
CAON

P1 or just
gutting buds
Rough notes
in line by
Hilbert clearing

Lady sp 7/11
Sara 7/11 7/11 7/11
Fua d 11
WT sp 11
Gunn A 11
Pl 11
Kidada 11
In blood
Linanthus
Clematis
Mimulus
Crypta
Vila
Mirabilis
Reckless
W fine 1/2

PRK-81
DLB#4
2/9/65
Lewand

Syl - 0 Coy - 5
Spar - 0 Nest - 2
Hum - m

CASH LEAF HOLA
CORA AMER CATO
AMKE BEND 3TH
NORA BOPH LASS
YRWA ANHU RETH
HOFI WOSP
WAME RETH
EUST SPAPH
SCOA WTT

~~New Orleans, La~~
Hotters for
Vila

W. force
1/17/14

Shakespeare
a. 1564
Stratford-upon-Avon
H. 1616
Buried in Stratford-upon-Avon

Parker Qc8
88 + H7

630-1120

3-2-65

1030-1120

62° 63°

24 mph 24

60% 95%

Erod bot
Amsinckia
Camissonia
Pectocarya
Vriesea (p.p.)
Plagiodon
Hirschfeldia
Lemonade berry
Nic. glau.
Raph. sat
Erod. cic
Steph.
Lot. scop
Chamaesyce
Mirabala
Eriog. fas.
Gnaph. b. l.
Phacelia minor
P. ~~scabell~~ ^{scarlet} pimp
Antirrhinum
Guzmania
Rip. Munda

Lady sp.
White
Blue

cup plant

Parker QCB 15

3-3-05
0730-1350
60' 64
60% 50%
1-3 2-4

led adm.

Integres
White #1
Saw 0 :
W. lady #1
P. lady 2
Dusky
Cabb W :

out { 1100 1110
61 61
75% 60

Flowers

Amorickia
Erod cic
Erod bat
H. incan
Lupine
Uropappas
Laph: sat.
Pectocarya
Cemmos. mini
Characerya
Plagio bathys
Cat. Phacelia
Mirabilis
Leschneria
Garama

Vig. lac
Cryptantha
Chia
Sonchus oler.
Antirr. (pup)
led mands
Steph.
Dichelostema
Eriogonum fars.
Leckella

yellow front
black V chest
Brown / mottled wings

Parker QCB

⑦

3-9-05

1210 530

738 68

Amph 0.2

0.8 0.6

Sun O. ☒

Lady ☒

P. Lady ☒ ☒

White ☒

Behr MM. ☒

Call W.

South B. ☒

Disby ☒

Red Alm. ☒

WC lady ☒

Flowers

H. inc.

Erod. inc.

Commissaria

Plag. both

An. Virens

Raph sat.

Cypripedium

Peatocarya

Filago cal.

Chamaesyce

Phacelia (cat)

Mirabilis cal.

Lusthena

Cyprip.

S. c. g. l. R.

Keckville

Lotus Scap

Antirrhinum

Everl. both

Cyp. plant

Marah mac

Salix

Grand pink

Eriog. fas.

Vig. Inc.

Didymopanax

Eschschdzia

Chia

Silene gill.

P. erect

Claytonia

Gazania (?)

Lepidium

Parker QCB 3/9/05

w/ Parker PRK-01

1210 sunny 73°F Q-2

Common White 1

Sara Orange 9

Painted Lady 9

Red Admiral 1

So. Blue 1

Funeral Duskwing 1

Plants: Cryptantha * Br. n. * Celyphidium

Camissonia * Eriogonum * Amorpha * Retort

Sonch * Ceanoth * Filix * Bromelia

Chaenactis * Antennaria * Mirca * Phacelia

Las. sp. * Picea * Vigla * Ceanoth * Arctostaphylos

Eriogonum * Malva * Mammillaria * Brodiaea * Urtica

Mimulus * Lupinus * Solanum * Quercus

Semmaria * Solanum * Lotsea * Phacelia x2 (pale perianth)

~~Urtica~~ * Solanum * Castilleja * Xanthoxylum

Arctostaphylos * Gnaphalium * Solanum * Linum

Yucca * Koeberlinia * Lupinus * Escallonia

shrub ~ 1.5' cl - stool gray/brown Salvia * Broomrape

Rosy Bc

Quail * Harvester Ants * Hummers

w. Kestrel * Blue-belly * Ceryle * Cooper's Hawk

Parker ACB #6
BP

3-11-08
1230-1550

73° - 69°

4-6 mph - 24

0% - 0

Lowen W ☒ ☐

Lady ☒ ☒ ☒ ☒ ☒

Sara B ☒ ☐

WCL :

Carlos W ☒

Dorothy L

Baker MM ☒

South B ☐

cut core / v. 5. lac / played /
5" SW P. cor. ☒ filips

Platys - NE CSS
new + small

cryptogam soils

open CSS

H. means	Vig. lac.	Gazania
Amsin. near.	Milly yellow?	Erod bot
Phacelobothrys	Kaliella	unk unk flwr yellow
Pachocarya	Eriog. Sas.	
Erod. ccd	Dichostemma	
Bibao gallica	Marah. mac.	
Rapthaus. sat.	Eriophyllum?	
Red Mauds	Ground Pink	
Camissonia	P. erecta	
Chamaesyce	Filago cal.	
Phacelia (cat)	B. nigra	
Sorbus	isch. cal.	
Mirabilis	Cryptanthus	
Antirr (purple)	flac min	
Leostachys sp.	lotus scap.	

Parker QCB X Land

3-12-05

P. lacy ☒ ☒
 Lomas W ☒
 Behr :-
 Cabbagh 1:

1145	1330
60	74
1-3	4-6
15%	0%

B. nipa
 Lotus seed
 Lycopersicon
 Euc. bot
 Euc. cit
 Raphanus
 Canna
 Senebieria
 Phacelia
 Dactylis
 Ficus
 Plant. sweet
 Cereus
 Vitis
 Elymus
 H. indica

Chamaecyparis
 Amaranthus
 Pectocarya
 Phos. int
 Mimulus
 Gnaphalium
 Red Mauds
 Amaranthus

Packer QCB *
BP

3-16-05

1000 - 1500

63 68

10% 0%

2-4 2-4

P. Lady B B B B > 5000

Cabb W B

Behr MM B B 1:

S. AREA OT B B U

WC Lady L

CA White B B

Red Arm :

Buckeye :

Linanthus

Erigeron fas

Let scap

Dicholostemma Mirab. cul.

Red Mards Lotus sp. (small)

Silene gall Caterpillar Phac.

H. incana Cryptanthus

Camissonia Viguiera lac.

Filago cal Sambucus mex.

Amorpha Keckia

Raph. sat. Lupina

Erub. lot. Co Poppy

Pectocarpus

Parker QCB
BP HA

3-31-05

0815

68

15-20

09/6

0905

1100

75

8-10

810622

1400

750

38

09%

lady
PL ~~XXXXXX~~
Spr W:
Behr m:
Blue
Curb W:

Saw OT:
Sulphur:
Bockeye:

Eradic in
Bra ng
Silene gal
Plagobothrys
Comissonia
Lactuca
Ant. notl.
Erug Sas.
Keechiella
Dickelstemma
Hypochaeris
Caterp. Phac.
Vig iac.
Mimulus od.
Cryptantha
Erad bot.

Castilleja
Erug bix
Lot. xop
Chamaesyce
Anagallis
Linnanthus
Chc.
Leibniz
Lupinus
Zschsch. cal
Pirac min.
Raph sat.

Parker QCB – 4/9/05 – By Erik LaCoste Biological Consulting

Time	Temp.	Wind (Ave., max.)	% Clouds	Rain
Start 1115	61°F	3.6 mph, 8.8 mph	30	None
1215	64°F	4.6 mph, 7.5 mph	15	None
1315	63°F	10.6 mph, 13.7 mph	20	None
1415	65°F	8.0 mph, 10.0 mph	25	None
1530	64°F	2.5 mph, 4.5 mph	40	None
End 1615	65°F	5.1 mph, 7.6 mph	25	None

Butterfly's observed	Number	Other species observed	
Sarah's orangetip	19	Magpie jay	Phainopepla
Cabbage white	9	Cassin's kingbird	Western meadowlark
Funereal duskywing	2	Red-tail hawk	Grasshopper sparrow
Painted lady's	11	Lesser goldfinch	Northern harrier
Behr's metalmark	11	House finch	Cal ground squirrel
West coast lady's	4	California towhee	Western whiptail
Checkered skipper	2	California quail	Sideblotch lizard
Sulfur sp.	1	Wrentit	Audubon's cottontail
		Pacific-slope flycatcher	
		Anna's hummingbird	
		Oak titmouse	
		Mourning dove	
		White-crowned sparrow	
		Scrubjay	
		California thrasher	
		Costa's hummingbird	
		Spotted towhee	
		Swallow sp.	
		Bushtit	

0900/1400

Chenopium

0-2+35

71 178

HLA BSM

AmPI Hume

HCA BOM

CRA BTIT

BKSH CATH

AmICE Cng-S

LEOF Thum-m

OR

Harvants

SPTO Spom-O

MCOO Syl-O

KI BTJR-S

NOMO ONW

SOSP

COHA GRML

CRTO CAQU

WHT ASH

ANHR SPTO

SCJA

SAPPI

CLSW

PRK-01 Parker

QCB#

4/14/05

Leonard

Sara III III III

White spot III III III

Fund II

Feng(?) SK I Cope

Berne III

Sulfur I

La flower

Brassica Graph cal

Commisoria Yucca wh

Plagio Er fa

Eradium Calyst

Vila Linanthus

Lotus (litt) Salvia cal

Lanthenia Erioph cont

Lupinus Silanum

Mirabilis Samb nux

Keckia ant Crypt

Phac cile Castex

Dichei Galium

Amynkia Phac par

Adem Anagallis

Chenopium prostratum?

Appendix C
LISTS OF BUTTERFLIES OBSERVED

Site: <u>Peaceful Valley Ranch</u>		
Name: <u>Brian Parker</u>		Date: <u>Survey 1</u>
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcedon checkerspot (<i>E. chalcedona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue	1	
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)		
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)		
common white (<i>Pontia protodice</i>)		
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)	1	
unidentified white	2	
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		
Wright's metalmark (<i>Calephelis wrighti</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	15	
west coast lady (<i>V. annabella</i>)		
Virginia lady (<i>V. virginiensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)		
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)		
mournful duskywing (<i>Erynnis tristis</i>)		

Site: PEACEFUL VALLEY RANCH		
Name: Amy MATSON, DEB DRAH LEONARD		Date: survey 2
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcedon checkerspot (<i>E. chalcedona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	5	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)		
common white (<i>Pontia protodice</i>)		
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white	2	
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	6	
west coast lady (<i>V. annabella</i>)		
Virginia lady (<i>V. virginiensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)	5	
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)		
mournful duskywing (<i>Erynnis tristis</i>)		

Site: <u>PEACEFUL VALLEY RANCH</u>		
Name: <u>DEBORAH LEONARD</u>		Date: <u>SURVY #3</u>
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcedon checkerspot (<i>E. chalcedona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	13	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)		
common white (<i>Pontia protodice</i>)	6	
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white	2	
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	2	
west coast lady (<i>V. annabella</i>)		
Virginia lady (<i>V. virginienensis</i>)		
red admiral (<i>V. atalanta rubria</i>)	2	
unidentified lady (<i>Vanessa</i> sp.)	7	
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)	2	
mournful duskywing (<i>Erynnis tristis</i>)		

Site: PEACEFUL VALLEY RANCH		
Name: DEBORAH LEONARD		Date: SURVEY 4
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcodon checkerspot (<i>E. chalcodona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Myliitta crescent (<i>Phyciodes myliitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	8	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)		
common white (<i>Pontia protodice</i>)	1	
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white	7	
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	1	
west coast lady (<i>V. annabella</i>)	1	
Virginia lady (<i>V. virginensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)		
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)		
mournful duskywing (<i>Erynnis tristis</i>)		
UNIDENTIFIED SULPHUR	1	

Site: <u>PEACEFUL VALLEY RANCH</u>		
Name: <u>BRIAN PARKER</u>		Date: <u>SURVEY 5</u>
Butterflies	Number	Comments
Checkerspot		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcedon checkerspot (<i>E. chalcedona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue	<u>1</u>	
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	<u>3</u>	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)	<u>2</u>	
common white (<i>Pontia protodice</i>)		
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white	<u>4</u>	
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	<u>7</u>	
west coast lady (<i>V. annabella</i>)	<u>18</u>	
Virginia lady (<i>V. virginensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)	<u>1</u>	
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)	<u>1</u>	
mournful duskywing (<i>Erynnis tristis</i>)		

Site: <u>PEACEFUL VALLEY RANCH</u>		
Name: <u>BRIAN PARKER, DALE RITENOUR</u>		Date: <u>SURVEY 6</u>
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcodon checkerspot (<i>E. chalcodona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)	3	
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	19	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)	1	
common white (<i>Pontia protodice</i>)	7	
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white	9	
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	29	
west coast lady (<i>V. annabella</i>)		
Virginia lady (<i>V. virginiensis</i>)		
red admiral (<i>V. atalanta rubria</i>)	1	
unidentified lady (<i>Vanessa</i> sp.)	5	
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)	3	
mournful duskywing (<i>Erynnis tristis</i>)		

Site: PEACEFUL VALLEY RANCH		
Name: BRIAN PARKER		Date: SURVEY 7
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcedon checkerspot (<i>E. chalcedona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)	2	
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)		
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)	13	
common white (<i>Pontia protodice</i>)	30	
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white		
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	15	
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	67	
west coast lady (<i>V. annabella</i>)	2	
Virginia lady (<i>V. virginensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)		
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)	6	
mournful duskywing (<i>Erynnis tristis</i>)		

Site: PEACEFUL VALLEY RANCH		
Name: BRIAN PARKER		Date: SURVEY 8
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcidon checkerspot (<i>E. chalcidona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	27	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)	11	
common white (<i>Pontia protodice</i>)	18	
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white		
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	25	
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	~5000	approx 1 obs. every 3 seconds
west coast lady (<i>V. annabella</i>)	6	on south side of stream
Virginia lady (<i>V. virginiensis</i>)		of ladies flying to north
red admiral (<i>V. atalanta rubria</i>)	2	
unidentified lady (<i>Vanessa</i> sp.)		
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)	1	
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)		
mournful duskywing (<i>Erynnis tristis</i>)		

Site: PEACEFUL VALLEY RANCH		
Name: BRIAN PARKER		Date: SURVEY 9
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcedon checkerspot (<i>E. chalcedona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	11	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)	9	
common white (<i>Pontia protodice</i>)	8	
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white		
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	4	
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	151	
west coast lady (<i>V. annabella</i>)		
Virginia lady (<i>V. virginiensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)		
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)	1	
mournful duskywing (<i>Erynnis tristis</i>)		

Site: <u>PEACEFUL VALLEY RANCH</u>		
Name: <u>BRIAN PARKER</u>		Date: <u>SEP 18 10</u>
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcodon checkerspot (<i>E. chalcodona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue	1	
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	3	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)	2	
common white (<i>Pontia protodice</i>)	4	
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white		
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	4	
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	130	
west coast lady (<i>V. annabella</i>)		
Virginia lady (<i>V. virginienensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)	1	
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)	2	
mourning cloak (<i>Nymphalis antiopa</i>)		
Skipper		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)		
mournful duskywing (<i>Erynnis tristis</i>)		
UNIDENTIFIED SULPHUR	2	

Site: PEACEFUL VALLEY RANCH		
Name: ERIK LACOSTE		Date: SURVEY 11
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcodon checkerspot (<i>E. chalcodona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Mylitta crescent (<i>Phyciodes mylitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopteryx lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	19	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)	9	
common white (<i>Pontia protodice</i>)		
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white		
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)	11	
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)	11	
west coast lady (<i>V. annabella</i>)	4	
Virginia lady (<i>V. virginiensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa</i> sp.)		
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)	2	
funereal duskywing (<i>Erynnis funeralis</i>)	2	
mournful duskywing (<i>Erynnis tristis</i>)		
UNKNOWN SULPHUR	1	

Site: PEACEFUL VALLEY RANCH		
Name: DOBORAH LEONARD		Date: SURVEY 12
Butterflies	Number	Comments
Checkerspots		
Quino checkerspot (<i>Euphydryas editha quino</i>)		
chalcodon checkerspot (<i>E. chalcodona</i>)		
Leanira checkerspot (<i>Thessalia leanira wrighti</i>)		
Myiitta crescent (<i>Phyciodes myiitta</i>)		
Gabb's checkerspot (<i>Chlosyne gabbii</i>)		
California patch (<i>C. californica</i>)		
Blues		
western tailed blue (<i>Everes amyntula</i>)		
southern blue (<i>Glaucopsyche lygdamus australis</i>)		
echo blue (<i>Celastrina ladon echo</i>)		
Edward's blue (<i>Hemiargus ceraunus gyas</i>)		
Sonoran blue (<i>Philotes sonorensis</i>)		
marine blue (<i>Leptotes marina</i>)		
Acmon blue (<i>Icaricia acmon acmon</i>)		
pygmy blue (<i>Brephidium exilis</i>)		
unidentified blue		
Whites		
Sara orangetip (<i>Anthocharis sara sara</i>)	24	
desert (Felder's) orangetip (<i>A. cethura</i>)		
cabbage white (<i>Artogeia rapae</i>)		
common white (<i>Pontia protodice</i>)		
spring white (<i>P. sisymbrii</i>)		
California ringlet (<i>Coenonympha californica</i>)		
unidentified white	37	
Metalmarks		
Behr's metalmark (<i>Apodemia mormo virgulti</i>)		
Wright's metalmark (<i>Calephelis wrightii</i>)		
Swallowtails		
pale swallowtail (<i>Papilio eurymedon</i>)		
anise swallowtail (<i>P. zelicaon</i>)		
western tiger swallowtail (<i>P. rutulus</i>)		
Sulphurs		
sleepy orange (<i>Eurema nicippe</i>)		
California dogface (<i>Zerene eurydice</i>)		
orange sulphur (<i>Colias eurytheme</i>)		
cloudless sulfur (<i>Phoebus sennae marcellina</i>)		
Hairstreaks		
gray hairstreak (<i>Strymon melinus pudica</i>)		
brown elfin (<i>Callophrys augustinus</i>)		
bramble (perplexing) hairstreak (<i>C. dumetorum</i>)		
great purple hairstreak (<i>Atlides halesus corcorani</i>)		
Ladies/Admirals		
painted lady (<i>Vanessa cardui</i>)		
west coast lady (<i>V. annabella</i>)		
Virginia lady (<i>V. virginiensis</i>)		
red admiral (<i>V. atalanta rubria</i>)		
unidentified lady (<i>Vanessa sp.</i>)		
California sister (<i>Adelpha bredowii californica</i>)		
Lorquin's admiral (<i>Limenitis lorquini</i>)		
Miscellaneous		
monarch (<i>Danaus plexippus</i>)		
queen (<i>D. gilippus</i>)		
satyr anglewing (<i>Polygonia satyrus</i>)		
buckeye (<i>Junonia coenia</i>)		
mourning cloak (<i>Nymphalis antiopa</i>)		
Skippers		
common checkered-skipper (<i>Pyrgus communia</i>)		
funereal duskywing (<i>Erynnis funeralis</i>)	2	
mournful duskywing (<i>Erynnis tristis</i>)		
Fiery Skipper (<i>Hylephila phyleus</i>)	1	
WICKLOW SULPHUR	1	

APPENDIX C

PLANT SPECIES OBSERVED

Appendix C
PLANT SPECIES OBSERVED – PEACEFUL VALLEY RANCH

<u>FAMILY</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT</u> ‡
DICOTYLEDONES			
Anacardiaceae	<i>Malosma laurina</i>	laurel sumac	CHP, NNG
Apiaceae	<i>Daucus pusillus</i>	rattlesnake weed	DCSS, NNG
Asteraceae	<i>Ambrosia acanthicarpa</i>	annual bur-sage	NNG
	<i>Artemisia californica</i>	California sagebrush	CHP, DCSS
	<i>Artemisia dracunculus</i>	tarragon	DCSS
	<i>Artemisia palmeri</i>	San Diego sagewort	DCSS
	<i>Baccharis salicifolia</i>	mule fat	MFS
	<i>Carduus pycnocephalus</i> *	Italian thistle	CLOW
	<i>Centaurea melitensis</i> *	star thistle	NNG, DH
	<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	yellow pinchusion	DCSS
	<i>Cirsium vulgare</i> *	bull thistle	NNG
	<i>Eriophyllum confertiflorum</i>	golden-yarrow	DCSS
	<i>Filago</i> sp.	filago	NNG
	<i>Gutierrezia californica</i>	California matchweed	DCSS
	<i>Hazardia squarrosa</i> var. <i>grindelioides</i>	saw-toothed goldenbush	DCSS
	<i>Hedypnois cretica</i> *	Crete hedypnois	NNG
	<i>Hypochaeris glabra</i> *	smooth cat's-ear	NNG
	<i>Isocoma menziesii</i> var. <i>menziesii</i>	San Diego goldenbush	DCSS
	<i>Lactuca serriola</i> *	wild lettuce	CLOW
	<i>Lasthenia californica</i>	goldfields	NNG
	<i>Osmadenia tenella</i>	osmadenia	DCSS
	<i>Psilocarphus tenellus</i>	slender woolly-heads	NNG
	<i>Rafinesquia californica</i>	California chicory	DCSS
	<i>Sonchus oleraceus</i> *	common sow thistle	NNG
	<i>Stephanomeria virgata</i>	virgate wreath-plant	DCSS
	<i>Stylocline gnaphaloides</i>	everlasting nest straw	NNG
	<i>Viguiera laciniata</i>	San Diego County viguiera	DCSS
Boraginaceae	<i>Amsinckia menziesii</i> var. <i>intermedia</i>	rancher's fiddleneck	NNG
	<i>Cryptantha intermedia</i>	nievitas	NNG
Brassicaceae	<i>Brassica nigra</i> *	black mustard	NNG
	<i>Raphanus sativus</i> *	wild radish	NNG, CLOW, DH
Cactaceae	<i>Opuntia littoralis</i>	coastal prickly pear	DCSS
Caprifoliaceae	<i>Sambucus mexicana</i>	blue elderberry	NNG
Caryophyllaceae	<i>Silene gallica</i> *	common catchfly	DCSS
Convolvulaceae	<i>Calystegia macrostegia</i>	morning-glory	DCSS
Crassulaceae	<i>Crassula connata</i>	pygmy-weed	DCSS
Cuscutaceae	<i>Cuscuta</i> sp.	dodder	DCSS
Ericaceae	<i>Xylococcus bicolor</i>	mission manzanita	CHP
Euphorbiaceae	<i>Chamaesyce polycarpa</i>	desert sand mat	DCSS, NNG
	<i>Eremocarpus setigerus</i>	dove weed	NNG

Appendix C (cont.)
PLANT SPECIES OBSERVED – PEACEFUL VALLEY RANCH

<u>FAMILY</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT</u> ‡
DICOTYLEDONES (cont.)			
Fabaceae	<i>Lotus</i> sp.	lotus	NNG
	<i>Lotus purshianus</i>	Spanish-clover	NNG
	<i>Lotus scoparius</i> var. <i>scoparius</i>	coastal deerweed	DCSS
	<i>Lupinus bicolor</i> ssp. <i>microphyllus</i>	miniature lupine	NNG
	<i>Lupinus truncatus</i>	collar lupine	DCSS
	<i>Melilotus indica</i> *	Indian sweet clover	NNG
	<i>Quercus agrifolia</i> var. <i>agrifolia</i>	coast live oak	CLOW
	<i>Vicia</i> sp.	vetch	NNG
Geraniaceae	<i>Erodium cicutarium</i> *	red-stem filaree	DCSS
	<i>Erodium moschatum</i> *	green-stem filaree	NNG
Hydrophyllaceae	<i>Phacelia cicutaria</i> var. <i>hispida</i>	caterpillar phacelia	DCSS
	<i>Phacelia</i> sp.	phacelia	DCSS
Lamiaceae	<i>Salvia apiana</i>	white sage	DCSS
	<i>Salvia columbariae</i>	chia	DCSS
	<i>Trichostema lanatum</i>	woolly blue-curly	DCSS
Malvaceae	<i>Malva parviflora</i> *	cheeseweed	NNG
Nyctaginaceae	<i>Mirabilis californica</i>	wishbone bush	NNG
Onagraceae	<i>Camissonia bistorta</i>	California sun cup	NNG
	<i>Camissonia californica</i>	false-mustard	DCSS
	<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	four-spot clarkia	DCSS, NNG
Papaveraceae	<i>Eschscholzia californica</i>	California poppy	DCSS
Plantaginaceae	<i>Plantago erecta</i>	dwarf or California plantain	DCSS
Polemoniaceae	<i>Eriastrum sapphirinum</i>	wool-star	DCSS, NNG
Platanaceae	<i>Gilia</i> sp.	gilia	DCSS
	<i>Linanthus dianthiflorus</i>	ground pink	DCSS
	<i>Navarretia hamata</i>	skunkweed	DCSS
	<i>Platanus racemosa</i>	sycamore	single tree
	<i>Chorizanthe fimbriata</i>	fringed spineflower	DCSS
Polygonaceae	<i>Chorizanthe staticoides</i>	Turkish rugging	NNG
	<i>Eriogonum fasciculatum</i>	California buckwheat	CHP, DCSS
	<i>Pterostegia drymarioides</i>	California thread-stem	CHP
	<i>Rumex crispus</i> *	curly dock	MFS
Portulacaceae	<i>Calandrinia ciliata</i>	red maids	NNG
Primulaceae	<i>Anagallis arvensis</i> *	scarlet pimpernel	NNG
Ranunculaceae	<i>Delphinium</i> sp.	larkspur	DCSS
Rhamnaceae	<i>Rhamnus crocea</i>	spiny redberry	CHP, DCSS
Rosaceae	<i>Adenostoma fasciculatum</i>	chamise	CHP
Rubiaceae	<i>Galium aparine</i> *	goosegrass	CLOW
	<i>Galium</i> sp.	bedstraw	DCSS

Appendix C (cont.)
PLANT SPECIES OBSERVED – PEACEFUL VALLEY RANCH

<u>FAMILY</u>	<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>HABITAT</u> ‡
DICOTYLEDONES (cont.)			
Salicaceae	<i>Salix gooddingii</i>	Goodding's black willow	MFS, RW
	<i>Salix lasiolepis</i>	arroyo willow	MFS, RW
Scrophulariaceae	<i>Antirrhinum nuttallianum</i>	Nuttall's snapdragon	DCSS
	<i>Castilleja affinis</i> ssp. <i>affinis</i>	coast paint-brush	DCSS
	<i>Castilleja exserta</i>	purple owl's clover	DCSS
	<i>Keckiella antirrhinoides</i>	chaparral beard-tongue	DCSS
	<i>Linaria canadensis</i>	blue toadflax	DCSS
	<i>Mimulus aurantiacus</i>	monkey-flower	DCSS, CHP
	<i>Scrophularia californica</i> ssp. <i>floribunda</i>	California figwort	DCSS
Solanaceae	<i>Datura wrightii</i>	jimson weed, thorn-apple	NNG
	<i>Lycopersicon esculentum</i> *	cherry tomato	DCSS
Urticaceae	<i>Urtica urens</i> *	dwarf nettle	NNG
MONOCOTYLEDONES			
Liliaceae	<i>Calochortus splendens</i>	lilac mariposa lily	DCSS
	<i>Chlorogalum</i> sp.	soap-plant, amole	DCSS
	<i>Dichelostemma capitatum</i>	blue dicks	DCSS
	<i>Yucca whipplei</i>	our Lord's candle	DCSS
Poaceae	<i>Avena fatua</i> *	wild oat	DCSS, AG
	<i>Brachypodium distachyon</i> *	purple falsebrome	DCSS
	<i>Bromus diandrus</i> *	common ripgut grass	CLOW, DCSS, NNG
	<i>Bromus hordeaceus</i> *	soft chess	DCSS, NNG
	<i>Bromus madritensis</i> ssp. <i>rubens</i> *	foxtail chess	NNG
	<i>Gastridium ventricosum</i> *	nit grass	DCSS
	<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	hare barley	NNG
	<i>Lamarckia aurea</i> *	goldentop	NNG
	<i>Muhlenbergia microsperma</i>	littleseed muhly	CHP, DCSS
	<i>Nassella pulchra</i>	purple needlegrass	DCSS
	<i>Poa secunda</i>	Malpais bluegrass	DCSS
	<i>Schismus barbatus</i> *	Mediterranean grass	NNG
	<i>Vulpia myuros</i> *	fescue	DCSS

*Non-native species

‡Habitat acronyms: AG=agriculture, CHP=southern mixed chaparral, CLOW=coast live oak woodland, DH=disturbed habitat, DCSS=Diegan coastal sage scrub, MFS=mule fat scrub, NNG=non-native grassland, RW=riparian woodland

ANIMAL SPECIES OBSERVED OR DETECTED

Appendix D
ANIMAL SPECIES OBSERVED OR DETECTED – PEACEFUL VALLEY RANCH

SCIENTIFIC NAME

COMMON NAME

INVERTEBRATES

Butterflies

	unidentified sulphur
<i>Anthocharis sara</i>	Sara orangetip
<i>Apodemia mormo virgulti</i>	Behr's metalmark
<i>Artogeia rapae</i>	cabbage white
<i>Coenonympha californica</i>	California ringlet
<i>Erynnis funeralis</i>	funereal duskywing
<i>Glaucopsyche lygdamus australis</i>	southern blue
<i>Hylephila phyleus</i>	fiery skipper
<i>Icaricia acmon</i>	Acmon blue
<i>Junonia coenia</i>	buckeye
<i>Papilio rutulus</i>	western tiger swallowtail
<i>Pontia protodice</i>	common white
<i>Pyrgus communia</i>	checkered skipper
<i>Vanessa annabella</i>	west coast lady
<i>Vanessa atalanta</i>	red admiral
<i>Vanessa cardui</i>	painted lady

VERTEBRATES

Amphibian

<i>Hyla regilla</i>	Pacific treefrog
---------------------	------------------

Reptiles

<i>Crotalus viridis</i>	western rattlesnake
<i>Sceloporus occidentalis</i>	western fence lizard
<i>Uta stansburiana</i>	side-blotched lizard

Birds

<i>Accipiter cooperii</i>	Cooper's hawk
<i>Ammodramus sandwichensis</i>	savannah sparrow
<i>Amphispiza belli belli</i>	sage sparrow
<i>Anser albifrons</i>	greater white-fronted goose
<i>Apelocoma californica</i>	western scrub jay
<i>Ardea herodias</i>	great blue heron
<i>Buteo jamaicensis</i>	red-tailed hawk
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Callipepla californica</i>	California quail
<i>Carduelis lawrencei</i>	Lawrence's goldfinch

Appendix D (cont.)
ANIMAL SPECIES OBSERVED OR DETECTED – PEACEFUL VALLEY RANCH

SCIENTIFIC NAME

COMMON NAME

VERTEBRATES (cont.)

Birds (cont.)

<i>Chamaea fasciata</i>	wrentit
<i>Chondestes grammacus</i>	lark sparrow
<i>Circus cyaneus</i>	northern harrier
<i>Colaptes auratus</i>	northern flicker
<i>Columba livia</i>	rock dove
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	common raven
<i>Dendroica coronata</i>	yellow-rumped warbler
<i>Eremophila alpestris actia</i>	California horned lark
<i>Euphagus cyanocephalus</i>	Brewer's blackbird
<i>Falco sparverius</i>	American kestrel
<i>Hirundo pyrrhonota</i>	cliff swallow
<i>Icterus bullockii</i>	Bullock's oriole
<i>Lanius ludovicianus</i>	loggerhead shrike
<i>Melanerpes formicivorus</i>	acorn woodpecker
<i>Mimus ployglottos</i>	northern mockingbird
<i>Myiarchus cinerascens</i>	ash-throated flycatcher
<i>Phainopepla nitens</i>	phainopepla
<i>Picoides nuttallii</i>	Nuttall's woodpecker
<i>Pipilo crissalis</i>	California towhee
<i>Pipilo maculatus</i>	spotted towhee
<i>Sayornis nigricans</i>	black phoebe
<i>Sayornis saya</i>	Say's phoebe
<i>Sialia mexicana</i>	western bluebird
<i>Sturnella neglecta</i>	western meadowlark
<i>Sturnus vulgaris</i>	European starling
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Tryannus verticalis</i>	western kingbird
<i>Turdus migratorius</i>	American robin
<i>Zenaida macroura</i>	mourning dove
<i>Zonotrichia leucophrys</i>	white-crowned sparrow

Mammals

<i>Canis latrans</i>	coyote
<i>Lynx rufus</i>	bobcat
<i>Neotoma</i> sp.	woodrat
<i>Spermophilus beecheyi nudipes</i>	California ground squirrel

EXPLANATION OF STATUS CODES
FOR PLANT AND ANIMAL SPECIES

Appendix E
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

FEDERAL, STATE, AND LOCAL CODES

U.S. Fish and Wildlife Service (USFWS)

FE	Federally listed endangered
FT	Federally listed threatened

California Department of Fish and Game (CDFG)

SE	State listed endangered
SR	State listed rare
ST	State listed threatened
CSC	California species of special concern

County of San Diego

Plant sensitivity:

Group A	Plants rare, threatened or endangered in California or elsewhere
Group B	Plants rare, threatened or endangered in California but more common elsewhere
Group C	Plants that may be quite rare, but more information is needed to determine rarity status
Group D	Plants of limited distribution and are uncommon, but not presently rare or endangered

Animal sensitivity:

County Sensitive	Animals considered under California Environmental Quality Act (CEQA) review of projects.
------------------	--

OTHER CODES AND ABBREVIATIONS

Multiple Species Conservation Program (MSCP) Covered

Multiple Species Conservation Program covered species for which County and City have take authorization within MSCP area.

Narrow Endemic Species

Some native species, primarily plants with restricted geographic distributions, soil affinities, and/or habitats, are referred to as narrow endemic species. For vernal pools and identified narrow endemic species, the jurisdictions will specify measures in their respective subarea plans to ensure that impacts to these resources are avoided to the maximum extent practicable.

Appendix E (cont.)
EXPLANATION OF STATUS CODES FOR PLANT AND ANIMAL SPECIES

California Native Plant Society (CNPS) Codes

Lists

- 1A = Presumed extinct.
- 1B = Rare, threatened, or endangered in California and elsewhere. Eligible for state listing.
- 2 = Rare, threatened, or endangered in California but more common elsewhere. Eligible for state listing.
- 3 = Distribution, endangerment, ecology, and/or taxonomic information needed. Some eligible for state listing.
- 4 = A watch list for species of limited distribution. Needs monitoring for changes in population status. Few (if any) eligible for state listing.

List/Threat Code Extensions

- .1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 = Fairly endangered in California (20 to 80 percent occurrences threatened)
- .3 = Not very endangered in California (less than 20 percent of occurrences threatened, or no current threats known)
- A CA Endemic entry corresponds to those taxa that only occur in California.
- All List 1A (presumed extinct in California) and some List 3 (need more information; a review list) plants lacking threat information receive no threat code extension. Threat Code guidelines represent only a starting point in threat level assessment. Other factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Code.